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The relationship between self-esteem, self-efficacy and sense of belonging in young adolescents at school

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The Relationship Between Self-Esteem, Self-Efficacy and Sense of Belonging in Young Adolescents at School

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Table of Contents

The Relationship between Young Adolescents Sense of School Belonging, Self-Efficacy, and Self-Esteem During Transition to High School

Elisabeth Freeman

Abstract

Research emphasises the importance of adolescents' psychological sense of belonging in relation to academic, motivational, psychosocial, developmental, and behavioural outcomes, particularly during transition to high school. However, adolescents' adjustment during transition period does not occur in isolation, it occurs in conjunction with normative biopsychosocial change-related effects. As most of adolescents biopsychosocial needs are negotiated in high school, the school's social context assumes a fundamental role in facilitating successful adolescent adjustment, and school belonging. Features of the high school context such as perceived peer, parent, and teacher support have an influence on adolescents' perceived belonging. Similarly, the educational values, in terms of goal structures, and emphasis on expectancy for success, that schools and teachers adopt is positively associated with adolescent perceived self-efficacy and feelings of self-worth. However, relatively few studies have examined school belonging in relation to competency beliefs and self-worth per se. Much of the existing research has primarily focused on academic and motivational outcomes, suggesting that future research in this area is necessary.

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The Relationship between Young Adolescents Sense of School Belonging, Self-Efficacy, and Self-Esteem During Transition to High School

Recent research in adolescent and educational psychology has primarily emphasized the saliency of the school's social context in facilitating or inhibiting successful and optimal intellectual potential, motivation, and sense of competency and school belonging (Battistich, Solomon, Watson & Schaps, 1997; Beck & Malley, 1998; Borich & Tombari, 1997; Edwards, 1995; Harter, Waters, & Whitesell, 1998; Isakson & Jarvis, 1999; Ma, 2003; Roeser, Midgley & Urdan, 1996). Perceived sense of school belonging per se is associated with various adaptive and maladaptive academic, motivational, psychosocial and behavioural outcomes in young adolescents (Anderman, 2002, 2003; Goff & Goddard, 1999; Goodenow & Grady, 1993; Hagborg, 1998; Kagan, 1990; Ma, 2003; Resnick et al., 1997; Roeser et al., 1996). Collectively, a sense of school belonging (SoSB) develops within the school's social environment (Ma, 2003), and refers to the degree to which adolescents believe they are accepted, respected, supported, and included by peers, teachers and other adults within a caring school community (Battistich et al., 1997; Goodenow & Grady, 1993). Finn's (1989) participation-identification model proposes that positive school belonging is fostered in environments that provide opportunities for active and meaningful participation, involvement, demonstration of competence (self-efficacy), and where adolescents feel their contributions are valued to the group and to self. Thus, through identification per se, the school milieu has the potential to positively or negatively influence the construction of a unique and coherent sense of self-identity in young adolescents (Akos & Masina, 2004, Erikson, 1982; Swanson, Spencer, & Peterson, 1998).

Research has demonstrated that the transition to high school is a particularly critical period in developing school belonging, because young adolescent adjustment during this period is a direct function of cumulative change-related effects of multiple interrelated biopsychosocial challenges and potential stressors (Akos, 2002; Bynner, 2000; Coleman & Hendry, 1999; Hertzog, Morgan, Diamond, & Walker, 1996; Hirsch & DuBois, 1992; Scales, 1991). Negative psychosocial adjustment in young adolescents during transition to high school is primarily attributed to a poor match between biopsychosocial needs and the contextual features of high schools (Eccles, Wigfield, Midgley, Reuman, Mac Iver, & Feldlaufer, 1993; Isakson & Jarvis, 1999).

Furthermore, conceptualising schools as institutions where academic, motivational, and social dimensions are inherently interrelated is necessary in understanding their reciprocal relationship to young adolescents SoSB and adjustment (Goodenow, 1993b; Ma, 2003; McBride, Curry & Anderman, 1995; Roeser et al., 1996; Routt, 1996; Witkowski, 1997; Yelsma & Yelsma1998). Relatively few studies have examined young adolescents' school belonging in relation to academic competency and self-worth per se (Goodenow, 1993b; Ma, 2003; McBride, Curry & Anderman, 1995; Roeser et al., 1996; Routt, 1996; Witkowski, 1997; Yelsma & Yelsma, 1998). Existing research in this area has demonstrated that the educational values, in terms of goal orientation (task mastery versus relative ability goals) and expectancies for success that schools and teachers promote, influences adolescents perceived school belonging, academic competency, and self-worth, with this relationship being mediated through adolescents adopting similar goal structures and expectancy values (Anderman, 2003; Battistich et al., 1997; Eccles, Midgely, Wigfield, Miller-Buchannan, Reuman, Flanagan

& Mac Iver, 1993; Goodenow & Grady, 1993; Kagan, 1990; Ma, 2003; Midgley, Anderman & Hicks, 1995; Roeser et al., 1996; Routt, 1996; Schaps, 2002; Schlosser, 1992; Schumacher, 1998). Further research examining the predictive relationship between young adolescents SoSB, self-efficacy, and self-esteem, is recommended.

Scope of Review

This review examines young adolescents sense of school belonging as it is negotiated in a climate of normative developmental changes during the transition to high school. Thus, SoSB will be operationally defined in terms of adolescents' psychosocial needs and in relation to the school's social context. In an attempt to provide a contextual understanding of the multi-dimensional issues impacting adolescents, adolescent adjustment during the transition period and in relation to the school social context will be presented from a biopsychosocial change perspective. This involves reviewing school belonging in terms of adolescents' cognitive, affective and social development and outcomes. Subsequently, two dimensions of the school psychological environment are considered in this review, the academic motivation dimension and the relationship or belongingness dimension. In merging these dimensions this review considers the increasing evidence that school belongingness, mediated through educational values and achievement goal structures that school environments foster, is related to adolescents' self-perceptions, in terms of self-efficacy beliefs and self-worth, motivation, and academic outcomes. This review will include inconsistencies in existing research and discuss them within the presenting context. In conclusion, future research issues, such as the need for further studies in examining adolescents' school belonging in relation to self-efficacy beliefs and self-worth (self-esteem) will be considered.

The Developing Adolescent

Biopsychosocial Needs. Biopsychosocial perspective asserts that developmental and psychosocial processes (Kail & Cavanagh, 1996) related to early adolescence occurs within a climate of physical, cognitive and social change, concurrent with other important life changes (Bee, 2000; Borich & Tombari, 1997; Coleman & Hendry, 1999). Adolescence refers to the sequential transition from childhood to adulthood (Bynner, 2000) and is characterised by the onset of significant puberty-related (physical), cognitive and social changes (Bee, 2000). These changes have a significant influence on adolescents' psychosocial development in terms of their developing self-concept and self-esteem (Coleman & Hendry, 1999; Crockett & Silbereisen, 2000).

Research indicates that the need to belong, collectively with other psychosocial needs, is inherently prevalent during early adolescent development and adjustment (Scales, 1991; Isakson & Jarvis, 1999). Scales's (1991) informative review on the impact of early adolescents' physical growth and developmental needs indicates that early adolescents undergo a few identified psychosocial developmental needs. For example, Scales (1991) proposes that developing adolescents experience increased desire for supportive peer and adult relationships, social interaction, and clear structures with explicit boundaries. Adolescents desire opportunities to creatively express themselves, meaningfully participate, actively engage in interactions and activities (Scales, 1991), be accepted, admired, and respected by others (Coleman & Hendry, 1999). Thus, young adolescents desire opportunities to demonstrate their successful competence and achievement, and to construct self-meaning within the social context (Scales, 1991). Fundamentally, through achieving self-meaning adolescents can develop a sense of self-

identity that is positive and coherent, and which is a fundamental prerequisite in the early adolescent's psychosocial development (Swanson, Spencer, & Peterson, 1998).

Conversely, Kimmel and Weiner (1985) propose developmental tasks related to adolescence include developing self-reliance and achieving autonomy from parents, through expanding relationships with peers and forming intimate relationships. Whilst achieving self-reliance requires adolescents to draw upon resources within the environment and self, achieving autonomy involves adolescents becoming self-governing which in turn requires emotional, cognitive, and behavioural adjustments (Kimmel & Weiner, 1985). For instance, in a climate of normative developmental changes young adolescents experience increased desire for autonomy, orientation to peers, concerns about social acceptance, an increased need to resolve identity issues, and tendency for an egocentric orientation. In essence, young adolescents desire opportunities that are conducive to development of a positive sense of competency, self-reliance, autonomy and belongingness.

School Social Context. Thus, as most of adolescents biopsychosocial changes are primarily negotiated in high school years, the high school's social environment forms an important mediator in the adolescents' successful adjustment to issues of autonomy, self-reliance, competency, and belongingness (Coleman & Hendry, 1999; Kimmel & Weiner, 1985). Research has consistently demonstrated that high school environments that optimize adolescents' biopsychosocial development have the potential to promote continual successful academic gains and positive psychosocial development (Beck & Malley, 1998; Borich & Tombari, 1997; Edwards, 1995; Isakson & Jarvis, 1999, Ma, 2003). Battistich et al's. (1997) Child Development Project involving elementary school

students found that belongingness together with autonomy and competency needs, are met in school environments that promote participation within a caring community. Furthermore, school belonging that was mediated through a caring school community was related to various positive outcomes, such as improved social skills, motivation and achievement.

Other research has found that the schools' social structure alone has the ability to facilitate school belonging through promoting shared physical and emotional connections between adolescents, peers and teachers (Beck & Malley, 1998; Edwards, 1995; Isakson & Jarvis, 1999). Similarly, Ma's (2003) correlational study, using education survey data from middle school students, found that school climate, measured in terms of academic values, disciplinary rules, and parental involvement, predicted adolescents school membership. For example, adolescents who reported positive academic values, disciplinary rules, and parental involvement were more likely to express positive feelings of school belonging.

Wehlage, Rutter, Smith, Lesko, and Fermandez's (1989) theory of school membership proposes that school environments meet students psychosocial needs by providing opportunities for namely: a) attachment through personal investment in meeting expectations of others, caring what others think, and positive reciprocal teacher and student relations; b) commitment through complying with school rules and demands; c) involvement through active participation in school activities and tasks; and d) belief through valuing and trusting the institutions.

Failure in addressing adolescents' psychosocial developmental needs is often associated with increased feelings of isolation (Edwards, 1995; Seidman, 1991),

alienation (Rumberger, 1995), lack of school belonging, and general low self-esteem (Beck & Malley, 1998a; Finn, 1989; Harter et al., 1998; Ma, 2003; Simmons et al., 1987). Increasing research indicates that under these circumstances adolescents are unable to effectively construct and maintain their self-value (self-esteem or self-worth), purpose and identity within the social context (Beck & Malley, 1998; Harter et al., 1998; Ma, 2003; Scales, 1991; Schaps, 2002; Wigfield & Eccles, 1994). As a consequence, adolescents often experience increased risk of adverse psychosocial outcomes and negative coping behaviours, such as depression, pessimism, social rejection, alienation, social exclusion, dropping out of school, delinquency, substance use, school adjustment problems, motivational deficits and negative academic outcomes (Anderman, 2003; Beck & Malley, 1998a; Goff & Goddard, 1999; Ma, 2003; Roeser et al., 1996; Royal & Rossi, 1996; Wigfield & Eccles, 1994).

Significance of School Belonging in Adolescent Adjustment

Research indicates that adolescents perceived sense of school belonging is associated with various adaptive and maladaptive academic, motivational, psychosocial and behavioural outcomes (Anderman, 2003; Hagborg, 1998; Roeser et al., 1996). From a theoretical perspective, Maslow (1968) contends that satisfying the belongingness need is a prerequisite to other needs being fulfilled, such that if an individual experiences difficulties in achieving a sense of belonging, he or she is vulnerable to negative psychological and adjustment outcomes. Similarly, Kagan (1990) developed a research model, based on an extensive review of literature, to identify whether treatment, behaviour, perception, and cognition differ between adolescents at risk of dropping out of high schools and those adolescents not at risk. The findings demonstrated that SoSB was

the distinguishing criteria for adolescents' level of risk, such that those adolescents with greater SoSB were more inclined to continue their schooling, than those adolescents with low SoSB.

Similarly, Resnick et al's (1997) large longitudinal study examining adolescent health related to transitions across all grade levels in high school found that adolescents who felt they belonged or connected to their school reported less emotional distress and adverse behaviour. For example, positive SoSB was associated with decreased cigarette, alcohol, and marijuana use, and was related to delayed first sexual activity in young adolescents. In another study, Goff and Goddard (1999) found that adolescents who valued SoSB, self-respect, and personal achievement demonstrated significantly lower frequencies of delinquent behaviour and substance use.

However, there is evidence suggesting that higher school belonging in some adolescents is also associated with maladaptive affect and negative behavioural outcomes. For example, Anderman's (2002) national longitudinal study on adolescent health found that although schools with higher levels SoSB reported lower levels of depression, higher SoSB was also related to increased reports of social rejection and school-related problems. Furthermore, findings demonstrated that adolescents' SoSB, measured in terms of acceptance and connectedness declined over time, congruent with increases in feelings of alienations. A plausible explanation is that in schools with high levels of SoSB, those adolescents who feel they do not belong and are unsupported are more likely to experience greater social rejection and school problems, than those adolescents who feel they belong and are supported (Anderman, 2003). These findings emphasise the importance of schools and intervention programs in implementing

strategies, not only to enhance school belonging over time per se, but also to identify and include those adolescents who are at greater risk of social rejection and school-related problems.

Adolescents Transition to High School

Despite the recent interest in adolescents' psychosocial adjustment, there is limited research on young adolescents' adjustment during the transition to high school. Existing research suggests that adolescent adjustment during this transition period is a direct function of cumulative change-related effects of multiple interrelated developmental, cognitive, and social demands related to the school environment. For example, during transition to high school adolescents are not only undergoing normative biopsychosocial changes that accompany pubertal maturity per se, but also they have to make adjustments to increases in diversity of teachers and students, behavioural rules and procedures, and academic expectations (Akos, 2002). Eccles, Wigfield, Midgley, Reuman, Mac Iver, and Feldlaufer's (1993) 'stage-environment fit' model proposes that negative adjustment outcomes occur in adolescents when there is a poor match between early adolescents developmental needs and the contextual features of high schools. Thus, the additional demands that accompany the transition to high school may or may not correspond with current developmental needs.

Consistent with this premise, research indicates that this developmental period is characterized by normative declines in several indicators of school adjustment (Isakson & Jarvis, 1999; Midgley et al., 1995; Roeser et al., 1996). For example, there is some evidence that increased emphasis on social interactions in high school may facilitate a social climate where 'fitting in' and belonging is particularly stressful and may interfere

with success in high school for some adolescents (Isakson & Jarvis, 1999). This often coincides with increased negative self views (self-doubt), need for supportive peer relationships and friendships (Hertzog et al., 1996), and concerns related to potential conflicts with friends and peers (Isakson & Jarvis, 1999; Phelps & Jarvis, 1994. According to Baumeister and Leary (1995) individuals avoid disruptions in social relationships to maintain a sense of belonging. Unfortunately, peer related concerns are accentuated by increased disruptions in friendships that were originally formed in elementary school (Barone et al., 1991; Isakson & Jarvis, 1999). For instance, research indicates that cliques become more salient in new school contexts and labeling, such as 'brains' or 'burnout', based on affiliations, may prevent prior elementary school friends from crossing these relational boundaries (Berndt et al., 1989). Thus, successful adjustment to these social changes requires adolescents to readjust previous schemas or concepts on peer relationships to include redefined relationship rules (Isakson & Jarvis, 1999).

Social Support System: Peer relationships. Consistent findings emphasize that the role peers assume is particularly important in positively or negatively influencing adolescents' achievement outcomes (Newman et al., 2000; Steinberg et al., 1992), goal-orientation, educational values, and attitudes towards their new high school (Berndt, 1982; Berndt et al., 1989; Felner et al., 1982). For instance, despite findings of school-related changes in peer support and friendship (disruptions in friendships) (Barone et al., 1991), Isakson and Jarvis's (1999) short-term longitudinal study found that perceived support from friends and social interactions actually increased over the transition period. Furthermore, adolescents who perceived that they were supported by their peers were

also more likely to feel that they belonged within the school environment (Isakson & Jarvis, 1999). Other studies have found that adolescents who reported being supported by peers were less likely to experience school-related anxiety and depression during transition period (Berndt, 1982; Felner et al., 1982; Hirch & Dubois, 1992). Some researchers propose that peers provide support by role modeling effective coping strategies that assist adolescents in successfully adapting to increased responsibilities and demands (Berndt, 1982; Felner et al., 1982; Hirch & Dubois, 1992).

Consistent with these findings, Felner et al's (1982) study, involving the implementation of a support project after transition to high school, demonstrated that level of social support from peers and teachers was positively correlated with school adjustment. Adolescents involved in the project yielded higher academic performance, better attendance, more positive self-concepts, and valued their school more, than adolescents not involved in the project. Similarly, Newman et al's (2000) interviews, involving urban adolescents making transition to Ninth grade, found that peer support of goal structure most often determined young adolescents' successful or unsuccessful transitions. For example, findings demonstrated that high achieving middle school students who made successful transition into high school reported having friends who supported their academic goals. However, Goodenow and Grady's (1993) study, involving urban adolescents, demonstrated that friends values, measured in terms of the adolescents belief that their friends valued school success, did not significantly affect adolescents achievement-related motives and behaviours (Goodenow & Grady, 1993). These findings suggest that adolescents SoSB and school support may negate the influence of personal friendships and cliques (Goodenow & Grady, 1993).

Despite findings suggesting that developing social support with peers and friends may be helpful in increasing adolescents SoSB and successful transition into high school, other research has demonstrated that peer support is also associated with negative academic achievement (Isakson & Jarvis, 1999). For example, Isakson and Jarvis's (1999) study found that although peer support increased during the transition period and was positively correlated with increased SoSB, peer support also predicted lower academic achievement at year end. The negative impact of peer support may suggest that for some adolescents attempting to develop lasting peer relationships (Isakson & Jarvis, 1999) combined with the increasing concerns about 'fitting in', may take precedence over academic achievement (Berndt et al., 1989; Cotterell, 1992).

Social Support Systems: Parental Relationships. Research indicates that normative changes in parent-adolescent relationships can either inhibit or facilitate adolescents progress towards expanding their social interactions, seeking support from others, and achieving self-reliance and autonomy (Berndt et al., 1989; Fuligni & Eccles, 1993; Isakson & Jarvis, 1999; Steinberg & Silverberg, 1996). For some adolescents, parents have a greater influence on their attitudes, behaviour, and school performance, than their peers (Berndt et al., 1989). Studies have demonstrated that the transition to high school is less disruptive for adolescents when parents are more responsive to their adolescents' need for autonomy and belongingness, and treat them more like young adults (Fuligni & Eccles, 1993; Lord, Eccles, & McCarthy, 1994). For example, Fuligni & Eccles's (1993) study on parent-adolescent relationships found that adolescents who perceived their parents as authoritarian, restrictive, and who discouraged opportunities to include adolescents in the decision making processes, were more inclined to rely on their

peers for support and advice than on their parents. Similarly, Lord et al's (1994) study examining parent support in adolescents adjustment to high school, found that adolescents who reported emotional autonomy in supportive parent-adolescent relationships, and who were included in decision-making, demonstrated higher feelings of self-worth (self-esteem) and liked junior high school more, than those adolescents who reported unsupportive and more restrictive parent-adolescent relationships. Other studies found that parent support of emotional autonomy in adolescents was associated with higher academic competency and positive psychosocial adjustment (Isakson & Jarvis, 1999; Lamborn & Steinberg, 1993).

Based on these findings, as high school requires more self-reliance one would assume that adolescents who are more emotionally autonomous would be at an advantage in terms of individuation from parents, school belonging and general adjustment. However, research examining adolescent emotional autonomy from parents and adjustment outcomes has demonstrated conflicting findings (Steinberg & Silverberg, 1996). For example, Steinberg and Silverberg's (1996) study found that although emotional autonomy from parents increased with age, this was negatively correlated with adolescent autonomy when under peer pressure. Those adolescents who demonstrated greatest emotional autonomy from parents also yielded more to peer pressure than those adolescents with lower emotional autonomy. Similarly, Isakson and Jarvis's (1999) found that whilst parental support predicted greater SoSB in adolescents, lower autonomy predicted higher academic achievement and greater SoSB. A plausible explanation for this inconsistent finding is that whilst some adolescents are attempting to cope with increased stressors they may be unprepared for independent decision-making, such that,

too much autonomy may interfere with their academic achievement (Isakson & Jarvis, 1999). Thus, for some young adolescents being less autonomous is an adaptive coping mechanism that may facilitate their self-definition to the new environment and this in turn enhances their academic achievement and SoSB (Isakson & Jarvis, 1999). Conclusively, adolescents coping strategies, autonomy, and perceived peer and parents support each have a distinct relationship to their psychosocial adjustment and school belonging.

Adolescents Cognitive Development. Some researchers propose that increasing and continual changes in the adolescent's intellectual functioning have a range of highly individualistic implications on the development of adolescents' attribution style and behaviours (Akos, 2002; Anderman, 2002). For example, Akos (2002) found that students who were more optimistic were more likely to report positive perceptions about the transition. In another study Anderman (2002) found that adolescents who were more optimistic towards school in general were more likely to experience higher SoSB and positive self-concepts, in comparison to adolescents that were less optimistic. Decisively, findings imply that individual differences in adolescents' cognitive development influence the time and extent of adjustment and perceptions during transition to high school.

Affective, Academic and Motivational Adjustment Outcomes. The transition to high school is associated with adolescents' negative psychological, affective, academic, motivational, and behavioural outcomes (Chung, Elias, & Schneider, 1998; Crockett & Silbereisen, 2000; Isakson & Jarvis, 1999; Wigfield & Eccles, 1994). For example, studies have found that during transition to high school, adolescents experienced

significant increases in psychological distress (Chung et al., 1998), life stress (Barone et al., 1991), and decrements in academic achievement, measured in terms of grade performance averages (Barone et al., 1991; Blyth et al., 1983; Chung et al., 1998; Felner et al., 1982; Isakson & Jarvis, 1999; Simmons et al., 1987). Consistent with these findings, other studies have found adolescents self-esteem and general attitude towards school declines during transition to high school (Anderman, 1999; Wigfield & Eccles, 1994; Harter, 1981). Consequently, separate studies by Barone et al. (1991) and Isakson and Jarvis (1999) found a significant drop in attendance rates during the year when compared to attendance at beginning of the high school year. Other researchers have found that although adolescents' participation in extra-curricular activities initially increased, it declined during the course of the year (Blyth et al., 1983; Simmons et al., 1983).

Cumulative studies have demonstrated that adolescents perceptions of academic competence, academic values, and achievement, become more negative, and that school related concerns intensify during early adolescence (Akos, 2002; Anderman & Kimweli, 1997; Arowsafe & Irvin, 1992; Cotterell, 1982, 1992; Elias, Ubriaco, Reese, Gara, Rothbaum, & Haviland, 1992; Isakson & Jarvis, 1999; Midgley et al., 1995; Phelps & Jarvis, 1994; Roeser et al., 1996; Stark, Spirito, Williams, & Guevremont, 1989; Wigfield & Eccles, 1994). Some researchers have explained declines in adolescents' psychological, affective, academic, motivational, and behavioural outcomes in terms of increased school-related stressors and demands within the new high school (Akos, 2002; Arowsafe & Irvin, 1992; Cotterell, 1982, 1992; Isakson & Jarvis, 1999; Phelps & Jarvis, 1994; Stark et al., 1989). For example, young adolescent adjustment is negotiated in

larger and more impersonal environments, which are more competitive and grade-oriented with stricter assessment measures, than previously accustomed to in elementary school (Cotterell, 1982, 1992). Teacher-student relationships become less positive with increased teacher expectations in preparation for successful graduation, college or university entrance and future employment (Phelps & Jarvis, 1994; Stark et al., 1989). Consistent with these findings, research examining school-related concerns in young adolescents during transition to high school, found that young adolescents were particularly concerned about academic expectations, stricter rules and procedures, (Akos, 2002; Cotterell, 1982, 1992; Isakson & Jarvis, 1999; Phelps & Jarvis, 1994; Stark et al., 1989), extracurricular activities (Isakson & Jarvis, 1999; Phelps & Jarvis, 1994; Stark et al., 1989), and accuracy of information received from others (Arowsafe & Irvin, 1992).

Adaptive Coping Mechanisms. The coping mechanisms, in terms of planning and problem-solving strategies, that adolescents employ during the transition period, has a significant influence on their school belonging and adjustment (Isakson & Jarvis, 1999). Coping refers to processes involved in constantly changing cognitive and behavioural efforts to manage specific internal or external demands that are judged as exceeding ones resources (Lane, Jones, & Stevens, 2002). Isakson and Jarvis's (1999) short term longitudinal study found that adolescents who engaged in adaptive coping strategies during transition to high school were more inclined to experience greater SoSB, in comparison to adolescents who engaged in maladaptive coping strategies. Further studies have identified gender differences in the types of coping strategies adolescents adopt (Phelps & Jarvis, 1994). For example, Phelps and Jarvis's (1994) study, examining adolescent coping during transition to high school, found that whilst female adolescents

employed more emotion-focused coping strategies, such as seeking social support from peers, male adolescents employed more avoidant coping strategies, such as denial.

Some theorists propose that adolescents may experience difficulties when they discover that their preferred coping style, that was functional in elementary school, does not effectively fit the particular problem situation within the new school context (Carver, Scheier, & Weintraub, 1989). For example, adolescents may experience adjustment difficulties if they have not developed supportive friendships when entering high school, particularly if the adolescent previously relied on social support as an effective coping strategy whilst in elementary school (Carver et al., 1989). However, Isakson and Jarvis's (1999) study demonstrates that despite individual differences in adolescents adopted coping strategies, as adolescents adapt to their new high school environment most adjustment difficulties are overcome by year end.

Multidimensional Approach to Adolescents SoSB, Academic and Motivational Outcomes.

Conceptualising schools as institutions where academic, motivational, and social dimensions are inherently interrelated, is necessary in understanding their reciprocal causal relationship to early adolescents sense of school belonging and adjustment (Ma, 2003; Roeser et al., 1996). In merging these dimensions, research focusing on the processes involved in young adolescents active attempts to derive meaning from their high school experiences in terms of their competencies (related to academic efficacy) and relatedness (belongingness) needs, have yielded inconsistent findings (Anderman, 2002, 2003; Battistich et al., 1997; Edwards, 1995; Goodenow & Grady, 1999; Kagan, 1990;

Ma, 2003; Midgley et al., 1995; Roeser et al., 1996; Routt, 1996; Schaps, 2002; Schlosser, 1992).

Some studies have demonstrated that adolescents' SoSB is associated with variance on attitudinal scales measuring general school motivation, value attributed to academic achievement, expectancy for success (Anderman, 2003; Edwards, 1995; Goodenow & Grady, 1993; Goff & Goddard, 1999), task goal orientation (Anderman, 2003; Eccles et al., 1993), and effort and persistence (Goodenow & Grady, 1993). For example, in a recent study, Anderman (2003) found that higher prior academic achievement and motivational outcomes predicted higher levels of SoSB in young adolescents. Similarly, Roeser et al's (1996) study examining the association between perceived SoSB and academic achievement in a sample of early adolescents, found that after controlling for prior academic achievement, demographics, personal achievement goals, school goal orientation, and perceptions of quality of teacher-student relationships, school belonging positively predicted end year grades. Consistent with these findings, Hagborg's (1996) study, examining the psychometric properties of a shorten version of Goodenow's (1993) Psychological Sense of School Membership (PSSM) scale the PSSM-Brief, found that middle school adolescents who demonstrated higher scores on SoSB also reported higher grades, more time spent on homework, and greater school motivation, than those adolescents with low SoSB.

Similarly, Goodenow and Grady's (1993) study, involving urban minority students at risk, found that those adolescents who demonstrated higher SoSB to their school were more likely to be motivated and academically engaged, than adolescents with low SoSB to their school. However, some adolescents who demonstrated positive

academic motivation also reported lower SoSB and more negative attitudes towards school in general. An interesting finding is that these adolescents also believed that their teachers and peers did not respect or value them personally, or value their academic success and school. These findings emphasise the importance of supportive teacher and peer relationships in facili ing positive SoSB and attitudes towards school. In another study examining the relationship between SoSB and academic achievement, Ma (2003) found that although adolescents' academic achievement was statistically significant the magnitude of effect size was small.

A possible explanation for the abovementioned inconsistencies is that academic achievement per se may not be a critical factor in adolescents SoSB (Ma, 2003). Caring peers and teachers together with attention to school work and academic success may be more important in facilitating positive school belonging in adolescents (Goodenow & Grady, 1993). Furthermore, some researchers argue that causal direction among these constructs is not well established and that reciprocal causation may occur over time (Anderman, 2002, 2003; Goodenow & Grady, 1993; Ma, 2003; Midgley et al., 1995; Roeser et al., 1996). Thus, the causal direction follows from previous empirical studies in schools, from the perceived school context measures to achievement goals and SoSB (Goodenow & Grady, 1993; Isakson & Jarvis, 1999; Midgley et al., 1995; Roeser et al., 1996). Similarly, the hypothesized causal direction from achievement goals and SoSB to psychosocial and behavioural outcomes follows previous ecological models of achievement motivation (Anderman, 2002; 2003; Finn, 1989; Goff & Goddard, 1999; Hagborg, 1998; Kagan, 1990; Resnick et al., 1997).

Expectancy of Academic Success. Increased emphasis and importance attributed to academic success in high school environments has a significant influence on adolescents' personal sense of competence (self-efficacy) and relatedness in terms of school belonging (Roeser et al., 1996). Thus, adolescents' expectancy for academic or social success is embedded in their belief system (self-efficacy) (Goodenow & Grady, 1993; Roeser et al., 1996). In terms of social-cognitive theory (Bandura, 1977, 1986) and motivational explanations in achievement settings (Anderman 2002, 2003; Roeser et al., 1996), self-efficacy beliefs are proposed to influence individual effort expenditure and persistence within a given context and are primarily based on prior performance outcomes. Similarly, adolescents' expectancy for success depends on personal judgments or evaluations of the availability of supportive resources in ensuring academic and social success (Goodenow & Grady, 1993; Roeser et al., 1996).

Based on these assertions, one would assume that adolescents' expectancy for success is contingent on school environments that foster positive school belonging, with this relationship being mediated through positive learning and social experiences. A small number of studies have examined this relationship and have yielded inconsistent findings. For example, Goodenow and Grady's (1993) study found that adolescents' expectancy for academic success was associated with adolescents SoSB. In contrast, Anderman's (2003) findings revealed that, after controlling for the effects of actual GPA scores, adolescents' expectancy for academic success did not predict their overall level of SoSB. Consistent with previous findings on academic achievement, these findings suggest that expectancies are not exclusively related to variance in adolescents' school belonging,

instead, this variance may be explained in terms of other mediating variables (Anderman, 2003).

Educational Values: Goal-Orientation. The personal achievement goals that adolescents adopt are related to their perceptions of SoSB, feelings of academic efficacy, and affective responses in school (Roeser et al., 1996; Routt, 1996; Schaps, 2002; Schlosser, 1992; Schumacher, 1998). Alternatively, research indicates that school membership mediated through teacher-students relationships (Battistich et al., 1997; Roeser et al., 1996) and goal orientation (Roeser et al., 1996) influences adolescents' commitment to school (Battistich et al., 1997; Kagan, 1990; Schlosser, 1992) and acceptance of educational values (Goodenow & Grady, 1993; Roeser et al., 1996). Consistent with these findings, other research has found that the goal structures high schools and teachers promote are salient predictors of the achievement goals adolescents adopt, their academic efficacy, use of effective learning strategies, school related behaviour, and SoSB (Battistich, et al., 1997; Goodenow & Grady, 1993; Roeser et al., 1996; Routt, 1996; Schaps, 2002; Schlosser, 1992; Schumacher, 1998).

Research on academic motivation and achievement has primarily identified two types of goal structures that determine what constitutes academic success in students, namely, task mastery goals and relative ability goals (Midgley et al., 1995; Roeser et al., 1996). Task mastery goals emphasise personal improvement, mastery, and intellectual development, and are related to positive adjustment outcomes. In contrast, relative ability goals emphasise social comparison, relative ability, and competition, and are related to negative adjustment outcomes. For example, existing evidence suggests that adolescents who perceive school environments as emphasising task mastery goals are more inclined

to adopt personal task goals, use higher level cognitive strategies, demonstrate higher academic self-efficacy, and positive school related behaviour (Midgley et al., 1995; Roeser et al., 1996). Alternatively, adolescents who perceived school environments as emphasising relative ability are more inclined to adopt personal relative ability goals, use surface-level cognitive strategies, demonstrate low academic self-efficacy, and increased disciplinary problems (Midgley et al., 1995). Furthermore, educational values that emphasise task mastery over relative ability goals are associated with positive perceptions of teachers, such as being more caring, trusting and respectful (Midgley et al., 1995; Roeser et al., 1996; Routt, 1996).

Conversely, it appears that adolescents school belonging and positive teacher-student relationship are mediated through the subjective values assigned to the academic tasks, namely, intrinsic (interest), utility (usefulness), and attainment (importance) value (Eccles, Midgley et al., 1993). For example, Anderman's (2003) comprehensive study on middle school students' belonging, found that after controlling for effects of prior achievement, students who perceived their classes as task goal-oriented, and who found tasks intrinsically interesting, useful and relevant to learning, reported higher levels of SoSB, than other adolescent students.

Social Comparison Processes. Social comparison processes that are mediated through relative ability goal structures and negative feedback in social situations are associated with decreased self-efficacy, lower self-esteem and increased performance anxiety, in young adolescents (Anderman, 2003; Midgley et al., 1995; Roeser et al., 1996; Witkowski, 1997; Witkowski & Stiensmeier-Pelster, 1998). This often occurs in conjunction with inherent increases in adolescents' self-consciousness and sensitivity to

social comparison (Elkind, 1967; Midgley et al., 1995), and when adolescents are in particular need for positive and supportive relationships with both peers and nonparental adults (Anderman, 2003). Academic self-consciousness functions similar to performance anxiety, such that higher levels of academic self-consciousness has a debilitating impact on school-related self-perceptions and performance (Roeser et al., 1996), and may accentuate in learned helplessness (Witkowski, 1997; Witkowski & Stiensmeier-Pelster, 1998).

There is some evidence that suggests adolescents who experience positive SoSB to their schools are more inclined to feel academically efficacious and less self-conscious (Goodenow, 1993b; Roeser et al., 1996; Routt, 1996). For example, correlational studies have demonstrated positive teacher-student relationships that are mediated through feelings of school belonging, are related to positive self-efficacy beliefs, higher academic outcomes, decreased self-consciousness or fear of failure (Goodenow, 1993b; Roeser et al., 1996; Routt, 1996), and increases in effort and participation (Goodenow, 1993b; Goodenow & Grady, 1993).

Self-Esteem and Motivation. Previous research has demonstrated that self-esteem, which refers to judgements of self-worth (Rosenberg, 1986), plays an important role in the formation of one's self-efficacy (Bandura, 1986). For example, research measuring different aspects of competence (efficacy) in children (Tonks & Wigfield, 2001) and adolescents (Marsh, 1989), demonstrates that perceived competency predicts general self-esteem. According to Kohn (1991) positive self-esteem is a fundamental component of 'prosocial orientation' of positive community settings. More precisely, adolescents self-esteem directly relates to and is derived from the larger social structure whereby values

are intrinsically facilitated (Flynn, 2003). Social comparisons theory emphasises that an individual's self-esteem is constructed through making positive or negative cognitive appraisals and self-evaluations in comparisons with others (Huges & Demo, 1989). This implies that the level of adolescents SoSB to high schools will internalise negative and positive evaluations of themselves by others in the school environment, and in turn influence self-esteem (Ma, 2003).

Research on achievement and motivation indicates that low self-esteem in adolescents is associated with use of maladaptive achievement strategies (Aunola, Stattin, & Nurmi, 2001). According to this motivational explanation if negative outcomes threaten self-esteem, students attempt to maintain self-esteem with self-handicapping strategies (such as behavioural disengagement and self-blame), that decrease their responsibility to negative outcomes and attribute negative outcomes to physical or cognitive deficits (Aunola et al., 2001; Hengstler, 2001; Lane et al., 2002; McKean, 1994; Witkowski & Stiensmeier-Pelster, 1998). Greenberg and colleagues (1992) referred to this preservation of self-esteem as serving an anxiety buffering function to reduce anxiety. As a consequence students respond to these situations with less persistence, non-participation, decreased effort expenditure, withdrawal, and feelings of alienation (Witkowski, 1997; Witkowski & Stiensmeier-Pelster, 1998). Thus, performance anxiety and the need to negotiate perceived threats to self-worth under this ability goal orientation are less that optimal for both learning and positive developmental adjustment (Roeser et al., 1996).

Research suggests that adolescents self-esteem and school belonging appear to maintain a circular relationship with each variable influencing the other (Ma, 2002). For

example, Ma (2003) found that adolescents' self-esteem was the single most fundamental predictor of school belonging, that is, high self-esteem in academic, athletic and social domains predicted increased participation in subsequent activities. In contrast low self-esteem was related to feelings of alienation, decreased participation and lack of school belonging. In another study Yelsma and Yelsma (1998) found that adolescents' global self-esteem, measured in terms of Rosenberg's (1979) Self-Esteem Scale (unidimensional measure), was a significant predictor of social respect, particularly respect for their teachers, within the school context. Global self-esteem is defined as the individual's positive or negative attitudes towards the self as a totality (Rosenberg, 1989). Consistent with attribution theory perspective, Witkowski (1997) study, examining learned helplessness and group affiliations in adolescents, demonstrated that adolescents' high self-esteem was associated with increased group affiliation. Consistent with models derived from social bonding theory, McBride et al. (1995) study found that adolescents' high level of bonding increased adolescents self-esteem which in turn was associated with decreased likelihood of engaging in risk-taking behaviour, such as binge drinking, smoking, illicit drug use, and sexual activity.

Conclusions and Future Directions

In review, cumulative research suggests that successful adolescent adjustment during transition to high school is highly dependent on the ability of the high school's social context in corresponding to adolescents biopsychosocial developmental needs (Anderman, 2002, 2003; Akos, 2002; Eccles et al., 1993; Isakson & Jarvis, 1999) Midgley et al., 1995; Roeser et al., 1996). Young adolescents perceived sense of school belonging is contingent with developing a cohesive, caring and supportive social context,

that facilitates a sense of belonging and identification, participation, involvement, and shared emotional connection amongst its members (Battistich et al., 1997). Failure in addressing young adolescents' psychosocial needs is associated with increased feelings of isolation (Edwards, 1995; Seidman, 1991), alienation (Rumberger, 1995), lack of school belonging, low self-esteem, and loss of self-identity (Beck & Malley, 1998; Harter et al., 1998; Ma, 2003; Simmons et al., 1987).

The supportive role that peers, parents, and teachers assume is associated with positive affect, higher academic performance, and successful transition to high school. Based on the conflicting findings it is uncertain whether adolescents expectancy for success is related to their school belonging. However, research indicates that the educational values in terms of goal structures high schools and teachers promote determines the personal achievement goals adolescents adopt, academic efficacy, use of effective learning strategies, school related behaviour, and SoSB (Battistich et al., 1997; Goodenow & Grady, 1993; Roeser et al., 1996; Routt, 1996; Schaps, 2002; Schlosser, 1992; Schumacher, 1998).

Relatively few studies have examined adolescents' school belonging in association with self-efficacy beliefs and self-esteem (Ma, 2003; Roeser et al., 1996). Thus, in view of insufficient information available in relating these factors to adolescent adjustment, future research is necessary in this area. Similarly, more research is necessary in examining adolescent adjustment outcomes during the transition period particularly on school belonging outcomes. Furthermore, most of the research is based on correlational findings and the causal direction between the constructs associated with adolescents SoSB and adjustment outcomes is not fully established, therefore a reciprocal relationship

is assumed. The above mentioned findings have important implications for high school educators and interventions programs by identifying important issues related to facilitating successful school belonging and adjustment in developing adolescents, particularly during transition to high school.

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The Relationship between Young Adolescents Sense of School Belonging, Self-Efficacy, and Self-Esteem During Transition to High School

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Abstract

Although increasing research exists on examining how aspects of the school environment are related to adolescents' school belonging, competency, academic motivation, and social adjustment, relatively few studies have directly examined adolescents' self-esteem, self-efficacy, and school belonging specifically during the transition to high school. The purpose of the present correlational study was to examine the predictive relationship between adolescents' self-esteem, self-efficacy, and academic competency to school belonging, specifically during the transition to high school. Fifty-seven students from a rural Catholic high school completed the Rosenberg's Self-Esteem Scale, Self-Perception Profile for Adolescents, and Psychological Sense of School Membership questionnaires. Contrary to the first research question, multiple regression analysis revealed that adolescents levels of self-esteem and self-efficacy was unrelated to their school belonging. Partial support was found for the second research question. Data demonstrated that adolescents' academic competency uniquely predicted their school belonging, however, it was negatively correlated with school belonging. This implies that lower academic competency was related to higher school belonging. It is plausible that other mediating variables, such as prior academic achievement, goal-orientation, increases in peer relationships and social interactions, and short tenure in high school, may have influenced the present findings.

The Relationship between Young Adolescents Sense of School Belonging, Self-Efficacy, and Self-Esteem During Transition to High School

Introduction

Recent research on adolescent and educational psychology has emphasized the importance of the school's social context in facilitating or inhibiting successful and optimal intellectual potential, motivation, and sense of competency and school belonging in young adolescents (Battistich, Solomon, Watson & Schaps, 1997; Beck & Malley, 1998; Borich & Tombari, 1997; Edwards, 1995; Harter, Waters, & Whitesell, 1998; Isakson & Jarvis, 1999; Ma, 2003; Roeser, Midgley & Urdan, 1996). Although various studies have operationalised and examined belongingness in different ways, there is general consensus that the need to belong, collectively with competency (Scales, 1991) and autonomy needs (Kimmel & Weiner, 1985; Lamborn & Steinberg, 1993; Steinberg & Silverberg, 1986), is a basic psychological need that is particularly prevalent during early adolescent development. Perceived school belonging per se is associated with various adaptive and maladaptive academic, motivational, psychosocial and behavioural outcomes in young adolescents (Anderman, 2002, 2003; Goff & Goddard, 1999; Goodenow & Grady, 1993; Hagborg, 1998; Kagan, 1990; Ma, 2003; Resnick et al., 1997; Roeser et al., 1996). For example, research has demonstrated that as a protective factor school belonging is associated with adaptive patterns of academic motivation (Anderman, 2003; Battistich et al., 1997; Goodenow & Grady, 1993), improved social skills (Battistich et al., 1997), lower rates of risky behaviour (Resnick et al., 1997), lower drop-out rates (Finn, 1989; Kagan, 1990; Rumberger, 1995; Schlosser, 1992; Wehlage, 1989), and positive school-related affect (Anderman, 1999; Battistich et al., 1995; Roeser et al.,

1996). Conversely, a lack of school belongingness is associated with higher incidences of alienation, low self-esteem (Edwards, 1995), isolation, and negative academic outcomes (Beck & Malley, 1998).

Defining a Sense of School Belonging.

Collectively, a sense of school belonging (SoSB) develops within the school's social environment (Ma, 2003), and refers to the degree to which adolescents believe they are accepted, respected, supported, and included by peers, teachers and other nonparental adults (Battistich et al., 1997; Goodenow & Grady, 1993), and feel connected to the group (Massey, 1998). Finn's (1989) participation-identification model proposes that positive school belonging is fostered in environments that provide opportunities for active and meaningful participation, involvement, demonstration of competence (self-efficacy), and where adolescents feel their contributions are valued to the group and to self. Similarly, Battistich et al's. (1997) Child Development Project, involving elementary school students, found that belongingness together with autonomy and competency needs are met in school environments that promote participation within a caring community. Thus, school milieus that recognize and endorse these prosocial variables have the potential to maximize young adolescents' psychosocial development and adjustment (Borich & Tombari, 1997; Schaps & Solomon, 1997), and positively influence the construction of a unique and coherent sense of self-identity (Akos & Masina, 2004, Erikson, 1982; Swanson, Spencer, & Peterson, 1998).

Multidimensional Approach to Adolescents SoSB, Academic and Motivational Outcomes.

From a multidimensional perspective, conceptualising schools as institutions where academic, motivational, and social dimensions are inherently interrelated, is necessary for understanding their reciprocal causal relationship to early adolescent's sense of school belonging and adjustment outcomes (Ma, 2003; Roeser et al., 1996). This approach merges research on achievement outcomes, goal orientation, expectancy for success, and peer and teacher-student relationships, to provide an enhanced understanding on how these variables reciprocally relate to adolescents perceived competencies (academic efficacy), self-esteem, and belongingness (Anderman, 2002, 2003; Battistich et al., 1997; Edwards, 1995; Goodenow & Grady, 1999; Kagan, 1990; Ma, 2003; Midgley et al., 1995; Roeser et al., 1996; Routt, 1996; Schaps, 2002; Schlosser, 1992).

SoSB and Achievement Outcomes. Research in achievement settings suggests that adolescents' achievement outcomes, measured in terms of grade performance averages (GPA), is associated with their perceived school belonging (Anderman, 2003; Goodenow, 1993; Hagborg, 1996; Roeser et al., 1996). For example, Goodenow's (1993) study found that students' perception of school membership was positively correlated with teachers' projected end year grades in English classes. School belonging was measured using the Psychological Sense of School Membership Scale (PSSM), which Goodenow (1993) specifically developed for use with adolescents. Anderman's (2003) more recent study, using an adapted version of the PSSM scale, found that higher prior academic achievement, measured in terms of grade performance averages (GPA),

predicted higher levels of SoSB in young adolescents in middle schools. Contrary to these findings, Ma (2003) found that although adolescents' academic achievement accounted for the variance in SoSB, the magnitude of the effect size was small. According to Ma (2003) the small effect size suggests that achievement outcomes per se, is not a critical factor in adolescents' SoSB, rather, the presence of caring peers and teachers within a supportive and safe school community may be more salient to adolescents SoSB.

SoSB and Academic Motivation: Expectancy of Academic Success. Research indicates that increased emphasis and importance attributed to academic success (expectancy of success) in high schools has a significant influence on adolescents' academic competency (academic efficacy) and SoSB. In terms of social-cognitive theory (Bandura, 1977; 1986) and motivational elucidations in achievement settings (Anderman, 2002, 2003; Goodenow & Grady, 1993: Roeser et al., 1996), competency beliefs are proposed to influence individual effort and persistence within a given context, and are primarily based on prior performance outcomes. Conversely, adolescents' expectancy for success depends on personal judgments or evaluations of the availability of supportive resources in ensuring academic and social success (Goodenow & Grady, 1993; Roeser et al., 1996).

Based on these assertions, one would assume that adolescents' expectancy for success is contingent on school environments that foster positive school belonging, with this relationship being mediated through positive learning and social experiences. The small numbers of studies that have examined this relationship, have yielded inconsistent findings. For example, Goodenow and Grady's (1993) study, involving urban minority

students at risk in middle schools, found that adolescents' expectancy for academic success was positively correlated with adolescents SoSB. More precisely, those adolescents who demonstrated higher SoSB were more likely to be motivated and academically engaged, than adolescents with lower SoSB. This implies that those adolescents who demonstrated higher SoSB were more likely to feel they could succeed academically, were satisfied with school, found school to be relevant and interesting, and expended greater effort and persistence, than those adolescents with lower SoSB. However, some adolescents who demonstrated positive academic motivation also reported lower SoSB and more negative attitudes towards school in general. Interestingly, these adolescents perceived their teachers and peers as not respecting them personally, or valuing their academic success at school. These findings emphasise the importance of supportive teacher and peer relationships in facilitating positive SoSB and attitudes towards school. Contrary to these findings, Anderman's (2003) more recent study found that, after controlling for the effects of actual GPA scores, adolescents' expectancy for academic success did not predict their overall level of SoSB. The data from this study was drawn from a larger longitudinal research project examining instructional practices and student motivation in middles schools. The findings from both these studies suggest that expectancy of academic success is not exclusively related to variance in adolescents' school belonging, instead, this variance may be explained in terms of other mediating variables.

Goal-Orientation: Academic Competency and SoSB Outcomes. There is evidence that the goals structures high schools and teachers promote are salient predictors of the achievement goals adolescents adopt, their academic efficacy, use of effective learning

strategies, school related behaviour, and SoSB, (Battistich, et al., 1997; Goodenow & Grady, 1993; Roeser et al., 1996; Routt, 1996; Schaps, 2002; Schlosser, 1992; Schumacher, 1998). Research on academic motivation and achievement has primarily identified two types of goal structures that determine what constitutes academic success in students, namely, task mastery goals and relative ability goals (Midgley et al., 1995; Roeser et al., 1996). Task mastery goals emphasise personal improvement, mastery, and intellectual development, and are related to positive adjustment outcomes. In contrast, relative ability goals emphasise social comparison, relative ability, and competition, and are related to negative adjustment outcomes. The personal achievement goals adolescents adopt in school environments reflect their active attempts in deriving an understanding of the purposes for achievement within the school context (Roeser et al., 1996).

Research indicates that school membership mediated through teacher-students relationships and goal orientation (Roeser et al., 1996) influences adolescents' commitment to school (Battistich et al., 1997; Kagan, 1990; Schlosser, 1992) and acceptance of educational values within the school context (Goodenow & Grady, 1993; Roeser et al., 1996). For example, studies have found that adolescents who perceived school environments as emphasising task mastery goals were more inclined to adopt personal task goals, use higher level cognitive strategies, and demonstrate higher academic self-efficacy, positive school related behaviour (Midgley, Anderman, & Hicks, 1995; Roeser et al., 1996) and higher levels of SoSB (Anderman, 2003). Furthermore, adolescents who perceived their school as emphasizing understanding, effort, and personal growth, also perceived that teachers cared, trusted, and respected them personally (Midgley et al., 1995; Roeser et al., 1996; Routt, 1996). In contrast,

adolescents who perceived school environments as emphasising relative ability were more inclined to adopt personal relative ability goals, use surface-level cognitive strategies, experience increased disciplinary problems, demonstrate low academic efficacy (Midgley et al., 1995), and feel self-consciousness in academic situations (Roeser et al., 1996). These findings suggest that adolescents who perceive their school as emphasizing understanding, effort, and personal growth are more inclined to perceive their teachers as caring, trusting, and respecting, compared with adolescents who perceive that only high achievers are acknowledged, rewarded, and supported (Anderman, 2003; Roeser et al., 1996).

Social Comparison Processes: Academic Self-Consciousness in Relation to Self-Efficacy, Self-Esteem, and SoSB Outcomes. The negative impact of relative ability goals on adolescents competency and school belonging may be mediated through social comparisons processes and academic self-consciousness. For instance, research in achievement and motivation suggests that relative ability goal structures and negative feedback in schools social context elicits social comparison processes that are associated with decreased self-efficacy, lower self-esteem and increased performance anxiety in young adolescents (Anderman, 2003; Midgley et al., 1995; Roeser et al., 1996; Witkowski, 1997; Witkowski & Stiensmeier-Pelster, 1998). Unfortunately, this often occurs in conjunction with normative increases in feelings of self-consciousness and sensitivity to social comparison (Elkind, 1967; Midgley et al., 1995), and thus may impede adolescents' psychosocial development (Aunola et al., 2001; Greenberg et al., 1992; Hengstler, 2001; Lane, Jones, & Stevens, 2002; McKean, 1994; Witkowski & Stiensmeier-Pelster, 1998). For example, according to Witkowski (1997) and Witkowski

and Stiensmeier-Pelster's (1998) studies in learned helplessness, academic self-consciousness functions similar to performance anxiety, such that higher levels of academic self-consciousness has a debilitating impact on school-related self-perceptions and performance and may accentuate in learned helplessness (Witkowski, 1997; Witkowski & Stiensmeier-Pelster, 1998). However, school contexts that foster SoSB may negate the debilitating impact of social comparison processes and academic self-consciousness in adolescents, by providing an environment where adolescents feel accepted, supported, included, and valued, in successful and unsuccessful outcomes.

There is some evidence that suggests adolescents' who experience positive SoSB are more inclined to feel academically efficacious and less self-conscious (Goodenow, 1993; Roeser et al., 1996). For example, correlational studies have demonstrated that positive teacher-student relationships mediated through feelings of SoSB, are related to positive self-efficacy beliefs, higher academic outcomes, decreased self-consciousness and fear of failure (Goodenow, 1993; Roeser et al., 1996), and increased effort and participation (Goodenow, 1993; Goodenow & Grady, 1993).

Relatively few studies have directly examined the relationship between adolescents SoSB and self-esteem or self-worth in school environments. An individual's self-esteem is derived from the larger social structure whereby values are intrinsically facilitated (Flynn, 2003), and is a fundamental component of 'prosocial orientation' of positive community settings (Kohn, 1991). Social comparisons theory emphasises that self-esteem is constructed through making positive or negative cognitive appraisals and self-evaluations in comparisons with others (Huges & Demo, 1989). This implies that the level of adolescents SoSB to high schools will internalise negative and positive

evaluations of themselves by others in the school environment, and in turn influence self-esteem (Ma, 2003). These assumptions make this a viable area of study.

Consistent with this premise, Ma's (2003) study, using survey data from middle school students, found that adolescents' self-esteem was the single most fundamental predictor of school belonging. More precisely, high self-esteem in academic, athletic and social domains predicted increased participation in subsequent activities. In contrast, low self-esteem was related to feelings of alienation, decreased participation and lack of school belonging. Thus, adolescents with greater feelings of self-worth were more satisfied with their school environment compared to those adolescents with lower feelings of self-worth. In another study, Yelsma and Yelsma (1998) found that adolescents' global self-esteem, measured in terms of Rosenberg's (1979) Self-Esteem Scale (unidimensional measure), was a significant predictor of social respect, particularly respect for their teachers. Global self-esteem is defined as the individual's positive or negative attitudes towards the self as a totality (Rosenberg, 1989). Consistent with attribution theory perspective, Witkowski's (1997) study, examining learned helplessness and group affiliations in adolescents, demonstrated that adolescents' high self-esteem was associated with increased group affiliation. Congruent with models derived from social bonding theory, McBride, Curry, Cheadle, and Anderman's (1995) study found that high level of bonding increased adolescents self-esteem which in turn was associated with decreased likelihood of engaging in risk-taking behaviour, such as binge drinking, smoking, illicit drug use, and sexual activity. These findings imply that adolescents' attitude towards themselves influences their attitudes towards their schools (Ma, 2003).

The importance of adolescents' self-esteem relative to their SoSB and adjustment is better understood in terms of motivation and achievement research that suggests low self-esteem in adolescents is associated with use of maladaptive achievement strategies (Aunola, Stattin, & Nurmi, 2001). According to this motivational explanation if negative outcomes threaten self-esteem, students attempt to maintain self-esteem with self-handicapping strategies (such as behavioural disengagement and self-blame), that decrease their responsibility to negative outcomes and attribute negative outcomes to physical or cognitive deficits (Aunola et al., 2001; Hengstler, 2001; Lane, Jones, & Stevenson, 2002; McKean, 1994; Witkowski & Stiensmeier-Pelster, 1998). Greenberg and colleagues (1992) referred to this preservation of self-esteem as serving an anxiety buffering function to reduce anxiety. As a consequence, students respond to these situations with less persistence, non-participation, decreased effort expenditure, withdrawal, and feelings of alienation (Witkowski, 1997; Witkowski & Stiensmeier-Pelster, 1998). Thus, performance anxiety and the need to negotiate perceived threats to self-worth under this ability goal orientation are less than optimal for effective learning and positive psychosocial adjustment (Roeser et al., 1996).

Transition to High School and Adolescent Adjustment

Relatively few studies have directly examined adolescents' competency, self-esteem, and belonging specifically during the transition period to high school. Existing research has demonstrated that the transition to high school is a particularly critical period in developing school belonging, because young adolescent adjustment during this period is a direct function of cumulative change-related effects of multiple interrelated biopsychosocial challenges and potential stressors (Akos, 2002; Bynner, 2000; Coleman

& Hendry, 1999; Hertzog, Morgan, Diamond, & Walker, 1996; Hirsch & DuBois, 1992; Scales, 1991). For example, during transition to high school young adolescents are not only experiencing significant puberty-related (physical) changes but they are also undergoing cognitive and social changes (Bee, 2000). These biopsychosocial changes have a significant influence on adolescents' psychosocial development in terms of their developing self-concept and self-esteem (Coleman & Hendry, 1999; Crockett & Silbereisen, 2000). From an ecological perspective (Bronfenbrenner, 1977), these concepts do not occur in isolation but instead develop simultaneously and are inextricably linked to various environmental influences within the school context (Royal & Rossi, 1996) and the educational roles and processes operating within the school environment (Borich & Tombari, 1997). Thus, the biopsychosocial challenges associated with early adolescents are negotiated at a time when school-related stressors intensify (Akos, 2002; Arowsafe & Irvin, 1992; Cotterell, 1982, 1992; Isakson & Jarvis, 1999; Phelps & Jarvis, 1994; Stark et al., 1989), and when young adolescents are adjusting to larger, more impersonal environments, that are more competitive and grade-oriented, and with stricter assessment measures, than previously accustomed to in elementary school (Cotterell, 1982, 1992). According to Eccles, Wigfield, Midgley, Reuman, Mac Iver, & Feldlaufer's (1993) 'stage-environment fit' model negative adjustment outcomes occur when there is a poor match between early adolescents' developmental needs and the contextual features of high schools. This implies that the school context and additional demands that accompany the transition to high school may or may not correspond with current psychosocial needs.

Thus, for young adolescents the additional school-related stressors and challenges during transition to high school may have significant implications on their psychosocial adjustment. Isakson and Jarvis's (1999) short-term longitudinal study, involving eighth grade adolescent students from a public school, found that although there was no decline in adolescents SoSB during the transition period, those adolescents who reported increases in stressors in the new school environment, also reported lower SoSB. However, despite initial increases in reported stressors on beginning high school, reported stressors decreased by year end as adolescents adapted to their new environment. Some of the school-related stressors that adolescents typically experience include concern over academic expectations, stricter rules and procedures, (Akos, 2002; Cotterell, 1982, 1992; Isakson & Jarvis, 1999; Phelps & Jarvis, 1994; Stark et al., 1989), extracurricular activities (Isakson & Jarvis, 1999; Phelps & Jarvis, 1994; Stark, Spirito, Williams, & Guevremont, 1989), accuracy of information received from others (Arowsafe & Irvin, 1992), and potential conflicts in peer and teacher-student relationships.

Perceived peer support and peer relationships have a fundamental influence on adolescents adjustment and SoSB during the transition period (Isakson & Jarvis, 1999). Isakson and Jarvis (1999) study found that support from friends increased over the transition and these increases were relative to increases in adolescents SoSB. However, peer support also predicted lower GPA at end of eighth grade to end of ninth grade. According to Isakson and Jarvis (1999), a plausible explanation for these findings is peer group interactions that are salient to adolescents may take precedence over academic achievement across the transition. Alternatively, friends may have been less supportive of

academic accomplishment in comparison to social aspects of the high school environment. These findings are consistent with Cotterell's (1992) Australian study that found peer support was related to negative academic achievement.

Research indicates that the transition to high school is associated with normative declines in several indicators of school outcomes (Crockett & Silbereisen, 2000; Isakson & Jarvis, 1999; Midgley et al., 1995; Roeser et al., 1996). For instance, a number of studies have demonstrated that adolescents' perceptions of academic competence, academic values, and achievement, become more negative during transition to high school (Akos, 2002; Anderman & Kimweli, 1997; Arowsafe & Irvin, 1992; Cotterell, 1982, 1992; Elias, Ubriaco, Reese, Gara, Rothbaum, & Haviland, 1992; Isakson & Jarvis, 1999; Midgley et al., 1995; Phelps & Jarvis, 1994; Roeser et al., 1996; Stark et al., 1989; Wigfield & Eccles, 1994). In appears that adolescents' self-esteem and general attitude towards school decline during transition to high school (Anderman, 1999; Wigfield & Eccles, 1994; Harter, 1981). Furthermore the transition to high school is associated with significant increases in psychological distress (Chung, Elias, & Schneider, 1998), life stress (Barone et al., 1991), and decrements in academic achievement (Barone et al., 1991; Blyth, Simmons, & Carlton-Ford, 1983; Chung et al., 1998; Felner, Ginter, & Primavera, 1982; Isakson & Jarvis, 1999; Simmons, Burgeson, Carlton-Ford, & Blyth, 1987), and decreases in attendance rates (Barone et al., 1991; Isakson & Jarvis, 1999) and extracurricular participation (Blyth et al., 1983; Simmons et al., 1983).

The abovementioned studies indicate that adolescent adjustment within the learning environment is better understood in merging achievement, motivation, and social dimensions. More precisely, adolescents perceived competency, self-esteem, and school

belonging are mediated through actual achievement (GPA), goal orientation, expectancies for success, educational values, and teacher-student relationships. Although suggestive, some researchers argue that causal direction among these constructs is not well established and that reciprocal causation may occur over time (Anderman, 2002, 2003; Goodenow & Grady, 1993; Ma, 2003; Midgley et al., 1995; Roeser et al., 1996). Thus, the causal direction follows from previous empirical studies in schools, from the perceived school context measures to achievement outcomes, achievement goals, expectancy of success, and SoSB (Goodenow & Grady, 1993; Isakson & Jarvis, 1999; Midgley et al., 1995; Roeser et al., 1996). Similarly, the hypothesized causal direction from these variables to psychosocial and behavioural outcomes follows previous ecological models of achievement motivation (Anderman, 2002; 2003; Finn, 1989; Goff & Goddard, 1999; Hagborg, 1998; Kagan, 1990; Resnick et al., 1997). Furthermore, whilst most of these studies were conducted on middle school students, it is evident that relatively few studies (Ma, 2003) have directly examined adolescents' competency, self-esteem, and belongingness specifically during the transition to high school.

Considering the significant impact the transition period to high school has on adolescent adjustment further research in this area is necessary. These studies would be fundamental in providing a biopsychosocial perspective to understanding adolescent adjustment, during a developmental and transition period characterized by multiple interrelated change and challenges, and adaptive and maladaptive adjustment outcomes.

Accordingly, the purpose of the current study is to examine the relationship between adolescents' perceived general competency (efficacy), self-esteem (self-worth), and school belonging during the transition to high school. Operationally defined

adolescents who experience competency in scholastic, social, athletic, physical appearance, behavioural, job, romantic, friendship, and global self-worth domains are likely to experience feeling of being accepted, respected, valued, supported, and cared for in high school. The first hypothesis under investigation is that adolescents general efficacy and self-worth (self-esteem) will be positively correlated (significantly) with measures of their school belonging. As academic competency appears to be an important variable associated with SoSB, this relationship was also examined in addition to efficacy and self-esteem. Thus, the second hypothesis is that adolescents academic competency together with efficacy and self-esteem will be positively correlated with school belonging.

Method

Participants

Fifty-seven voluntary grade eight students consisting of 32 males and 25 females, with a mean age of 12.7 years (SD = .49), attending a rural Catholic high school, participated in the current study. The school is located south west of a major metropolitan area and was chosen to represent 29% of students who receive their education in some form of private schools in Western Australia (Education Department of Western Australia). The convenient sample of participants was recruited based on timetable availability and with minimal disruption to the regular classroom routine. With support of the principal and the year eight coordinator, participants included only those students whose parents or guardians provided consent via an information letter and consent form, sent home by homeroom teachers, and under the auspices of Edith Cowan University

(Appendix A). Due to the nature of this study the high school retained the parent consent forms to ensure confidentiality and anonymity would be maintained. Participant treatment was in accordance with "Ethical Principles of Psychologists and Code of Conduct" (American Psychological Association, 1992a).

Materials

Data was collected from students via a series of class administered self-report questionnaires consisting of the Self-Esteem Scale (Rosenberg, 1989), Self-Perception Profile for Adolescents (Harter, 1988) and Perceived Sense of School Membership scale (Goodenow, 1993).

Self-esteem measure. Rosenberg's Self-Esteem Scale (1989) is a unidimensional Likert-type scale that was chosen for its extensive psychometric properties, designed to directly measure feelings of global self-worth (self-esteem) in adolescents (Appendix B). The ten item questionnaire consisted of four point response options ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Item examples included "Are you able to do things as well as others?" and "For most part do you see yourself as positive?". A value was assigned to each of the ten items. The scale ranged from 1 to 4, with 4 representing the highest score indicating high self-esteem. Items appeared face valid and the scale was concise, simple and fast to administer. Satisfactory internal consistency and high reliability was previously demonstrated (Cronbach's alpha; $\alpha = .77$ to .88), with test-retest correlations ranging from .82 to .88 (Blascovich & Tomaka, 1993; Rosenberg, 1986, 1989).

Self-efficacy/ competency. The Self-Perception Profile for Adolescents questionnaire was utilized to measure self-efficacy (Harter, 1988), in terms of

adolescents' perceptions of competence across nine sub-scales, namely, athletic, social acceptance, physical appearance, academic competence, job competence; romantic appeal, behavioural conduct, close friendship and global self-worth (Appendix C). The forty-five item, Likert-type scale, included statements such as, "Some teenagers like to go to the movies" and "Some teenagers find it hard to make friends". Items were scored, 4, 3, 2, or 1, with 4 indicating most adequate self-assessment and 1 indicating least adequate self-assessment. Sub-scale items were counter-balanced so that two or three items were worded with most adequate statement on the left (scored 4, 3, 2, 1), and remaining two or three items were worded with most adequate statement on the right (scored 1, 2, 3, 4). A scoring key sheet in transparency form (Appendix D) and data recording sheet were used (Appendix E). Good internal consistency and reliability (Cronbach's alpha) was previously demonstrated for all sub-scales (α = .74 to .92) (Harter, 1988; Tonks & Wigfield, 2001). Scholastic competency was separately measured using the sub-scale out of Self-Perception Profile for Adolescents scale.

School belonging. The Psychological Sense of School Membership Scale (PSSM; Goodenow, 1993), which is an 18-item Likert-type scale, was used to assess school belonging (Appendix F). The PSSM scale was specifically designed for use with early to mid-adolescent students and assesses the extent to which early and mid-adolescents feel liked, personally accepted, respected, involved, encouraged and included in the school context (Goodenow, 1993). School belongingness has been positively related to motivation for school, effort, level of participation, and eventual achievement (Goodenow, 1993; Ma, 2003), and is therefore a good indicator of school adjustment. Item examples included, "I feel like a real part of (name of the school)" and "People here

notice when I'm good at something". Response scale ranged from 1 (*not at all true*) to 5 (*completely true).* Satisfactory internal consistency and reliability was previously reported for different variable samples with Cronbach's alpha ranges from .71 to .88 (Goodenow, 1993, Goodenow & Grady, 1993; Hagborg, 1994; Ma, 2003). Hagborg (1994) study has demonstrated good test-retest reliability with 50 grade eights (r =.78). Student information and consent forms were used to provide students with brief information regarding the study and to obtain student participant consent (Appendix G). A demographic questionnaire was administered to provide accurate information regarding gender, mean age, and number of parents working (Appendix H). SPSS version 13.0, a computerised statistical analysis program, was used for data analysis.

Procedure

After an initial introduction the researcher issued each participant with an information and consent form and demographics sheet. The researcher briefly read out information regarding the study and informed the participants that confidentiality and anonymity would be maintained. The participants were informed of their rights in refusing to answer any questions and in withdrawing from the study at any chosen time if they so decided, without any consequences. All participants provided consent and completed the demographic information questionnaire. The researcher issued each participant with a Self-Esteem Scale (Rosenberg, 1989), Self-Perception Profile for Adolescents (Harter, 1988) and Psychological Sense of School Membership (Goodenow, 1993) questionnaire. The participants were informed to proceed once all questionnaires had been issued and none of the participants withdrew at any time. The participants required less than 30 minutes to complete the questionnaires. At the end of the session all

responses were collected by the researcher. Participants were thanked for their informative participation. The data was scored consistent with scoring guidelines (Rosenberg, 1989; Harter, 1988; Goodenow, 1993) and where applicable scores were transferred to data sheets. For example, for the Self-Esteem Scale (Rosenberg, 1989) the mean score for each participant was calculated by assigning a value to each responses on the ten items. For items 1, 2, 4, 6, 7; values were 4 (*Strongly Agree*), 3 (*Agree*), 2 (*Disagree*), and 1 (*Strongly Disagree*). For items 3, 5, 8, 9, and 10, the reversed valence applied, that is, 1 (*Strongly Agree*), 2 (*Agree*), 3 (*Disagree*), and 4 (*Strongly Disagree*). As scholastic competency is a subscale of the Self-Perception Profile for Adolescents (Harter, 1988) scale, efficacy scores were adjusted (referred to as adjusted efficacy) to exclude scholastic scores so that scholastic competency was not indirectly measured twice. Satisfactory internal consistency and high reliability (Cronbach's alpha; $\alpha = .77$ to .88) for the scholastic competency has previously been demonstrated (Harter, 1988). Thus, scholastic competency, adjusted efficacy, and self-esteem were scored and analysed separately. Responses for the Self-Perception Profile for Adolescents (Harter, 1988) scale were scored using the scoring key sheet from Harter's (1988) manual. Scores were transferred to a data-coding sheet so that all items for each particular sub-scale were grouped together. The mean for each sub-scale and for the total nine sub-scales was calculated. The mean scores for the PSSM scale were tabulated by aggregating the scale range for each item response, for example, 1 (not at all true) to 5 (completely true). All data was analysed using SPSS version 13.0 for Windows.

Results

The first research question concerned the predictive relationship between adolescents' self-esteem, general self-efficacy, and school belongingness. To address this question, correlations and multiple regression were employed to determine which construct was most important in adolescent school belonging.

The second research question concerned the predictive relationship between academic efficacy, self-esteem, efficacy, and school belonging. A second multiple regression analysis was performed to examine this relationship. Thus, scholastic competency was used as an additional independent variable in the second multiple regression analysis, together with self-esteem and adjusted efficacy. To evaluate the assumptions of regressions, the guidelines outlined in Tabachnick and Fidell (2001), Cooksey (1996), and Hair, Anderson, Tatham and Black (1998) were followed.

Descriptive Statistics.

Perceived efficacy, self-esteem, and school belonging. An examination of the frequencies statistics for the first research question indicates that no cases had missing data (N=57), and all scores fell within the expected range. Data were examined for univariate outliers by assessing standardised scores, histograms, and boxplots. No cases with standardized scores in excess of $\pm$ 3.00 were found suggesting there were no potential outliers. Shapiro-Wilk's statistic indicated that univariate normality was assumed for school belonging (= .971, significance = 0.193 > 0.05) and efficacy (= .960, significance = 0.059 > 0.05), with the latter variable being very close to violation (<0.05, not significant). Assumptions of univariate normality for self-esteem (= .940, significance = .007 < 0.05) were violated. However, examinations of the detrended plots

of all variables suggests a somewhat curvilinear relationship, however, because scatterplots appeared relatively normal assumptions of linearity and homoscedasticity were not violated (see Appendix I). Based on these findings a decision was made to retain the variable self-esteem without transformation. Cooksey (1996) does not recommend transformations of slight deviations from normality based on the premise that with transformation the researcher is not dealing with the original set of data and provides a false set of data and interpretation. The skewness and kurtosis for all variables were relatively normal. Mahalanobis' distance ($p<.001$, $df=2$, $X_{crit}=13.8$) identified no multivariate outliers (see Appendix J). SPSS default indicated that multicollinearity and singularity were not present. Examination of the histogram of standardized residuals indicates that multivariate normality can be assumed (see Appendix K).

Perceived scholastic competency, self-esteem and school belonging. For the second research question, as descriptive statistics for self-esteem has already been presented (refer above), only the descriptive statistics for scholastic efficacy and adjusted efficacy are mentioned. There were no missing cases (N=57), and all scores fell within the expected range. Data were examined for univariate outliers by assessing standardised scores, histograms, and boxplots. No cases with standardized scores in excess of ± 3.00 were found suggesting there were no potential outliers. An examination of the residual scatterplots and detrended plots (see Appendix L) indicated that univariate normality, linearity, and homoscedasticity were established. The Shapiro-Wilk's statistic indicated that univariate normality can be assumed for adjusted efficacy (=.975, significance = 0.278>0.05), but not for scholastic competency (=.946, significance = 0.013<0.05) and self-esteem (= .940, significance = .007 < 0.05). Consistent with Cooksey's (1996)

previously mentioned assertions and based on the assessment of relatively normal residual scatterplots and detrended plots (slight curvilinear relationship), a decision was made to retain these variables and not to transform the data.

Inspection of Mahalanobis' distance statistics ($p<.001$, $df=3$, $X_{crit}=16.3$) identified no multivariate outliers (see Appendix M). Furthermore, examination of the histogram of standardized residuals indicated that multivariate normality can be assumed (see Appendix N). SPSS default indicates that multicollinearity and singularity were not present. However, the results of the multiple regression analysis for both research questions should be interpreted with caution.

Correlations.

Table 1.1 displays the correlations between the variables for the first research question. It is apparent that self-esteem and efficacy r (57) = .246, $p<.05$ were similarly, strongly positively correlated with each other, but not with school belonging r (57) = -.131, p <.05 and r (57) = .-048, $p<0.05$, respectively.

Table 1.1

Correlations between Variables Esteem, Efficacy and Belonging

Variables	Esteem	Efficacy	Belonging
Esteem	1	.246*	-.131
Efficacy	.246*	1	-.048
Belonging	-.131	-.048	1

*$p<.05$

Table 1.2 displays the correlations between the variables for the second research question. It is evident that scholastic competency was similarly, significantly negatively correlated r (57) = -.242, $p<.05$ with school belonging and strongly positively correlated with adjusted efficacy r (57) = .505, $p<.05$.

Table 1.2

Correlations between Variables Esteem, Adjusted Efficacy, Scholastic Efficacy, and Belonging

Variables	Esteem	Adj. Efficacy	Scholastic	Belonging
Esteem	1	.216	.152	-.131
Adj. Efficacy	.216	1	.505*	-.022
Scholastic	.152	.505*	1	-.242*
Belonging	-.131	-.022	-.242*	1

*$p<.05$

Multiple regression analysis.

Perceived competency, self-esteem, and school belonging. Table 1.3 illustrates the standardized regression coefficients (ß), multiple correlation coefficient (R) and the variance accounted for by the model (R^2) for all the participants for the first research question.

Table 1.3

Standard Multiple Regression of Self-Esteem and Efficacy (N=57)

Variable	B	ß	*t*	Sig
Esteem	-.443	-.126	-.909	.367
Efficacy	-.022	-.017	-.125	.901

Note. $\underline{R}^2$ = . 017; Adjusted $\underline{R}^2$ = -.019; $\underline{R}$ = .132

*p <.05.

An examination of the low value for $\underline{R}^2$ (.017) indicates that both self-esteem and efficacy do not account for much of the variance in school belonging in adolescents (See Appendix Q). In fact self-esteem and efficacy explain only 2% of the variance in school belonging (adjusted $\underline{R}^2$ = .019). The multiple $\underline{R}$ (.132) for the regression was not significantly different from zero, $\underline{F}$ (2,54) = .478, $\underline{p}$>.05) suggesting that the regression equation for self-esteem and efficacy is not significant, and therefore does not explain a salient amount of variance in school belonging in adolescents.

The coefficient correlations in terms of the ß weights (statistical significant if H_0: ß = 0) indicate that self-esteem (-.126) made a greater contribution to the variance in school belonging than efficacy (-.017). Inspection of the T values indicates that adolescent self-esteem (t = -.909>.367, $\underline{p}$<0.05) and efficacy (t = -.017<.901, $\underline{p}$>0.05) are not statistically significantly correlated to school belonging in adolescents.

In summary, the two independent variables self-esteem and efficacy did not predict school belonging for adolescents in the sample.

Perceived self-esteem, adjusted efficacy, scholastic competency, and school belonging. Table 1.4 illustrates the standardized regression coefficients (ß), multiple correlation coefficient (R) and the variance accounted for by the model (R^2) for all the participants for the second research question.

Table 1.4

Standard Multiple Regression of Self-Esteem, Adj. Efficacy, and Scholastic Competency (N=57)

Variable	B	ß	*t*	Sig
Esteem	-.415	-.118	-.879	.383
Adj. Efficacy	.209	.157	1.010	.317
Scholastic	-.250	-.302	-1.982	.053

Note. R^2 = . 085; Adjusted R^2 = -.033; R = .292

*p <.05.

An examination of the R^2 (.085) indicates that self-esteem, adjusted efficacy and scholastic competency account for 8.5% of the variance in school belonging in adolescents (see Appendix R). Multiple R (.292) for the regression was not significantly different from zero, F (3,53) = 1.641, p>.05) suggesting that the regression equation for self-esteem, adjusted efficacy, and scholastic competency is not significant. Examination

of ß weights (statistical significant if H_0: ß=0) from the correlation coefficient suggests that scholastic competency (ß =.302) made a greater contribution to the variance in belonging and is therefore a better predictor of school belonging in adolescents than adjusted efficacy (ß =.156) and self-esteem (ß = -.118). Inspection of the T values indicates that adolescent scholastic competency (t = -1.982>.053, p<0.05) is significantly negatively correlated to school belongingness, however, adolescent adjusted efficacy (t = 1.010<.317, p>0.05) and self-esteem (t = -.879<.383, p>0.05) is unrelated (not significant) to school belongingness.

In summary, whilst together the variables self-esteem, adjusted efficacy and scholastic competency did not predict school belonging in adolescents, scholastic competency significantly and independently predicted school belonging in adolescents.

Discussion

In the present study, the first research question focused on examining adolescents' self-esteem and efficacy in relation to their school belonging during the transition to high school. The second question examined scholastic competency (academic competency) as an additional independent variable in relation to school belonging in adolescents.

In response to the first research question and contrary to expectations, the data suggests that adolescents' self-esteem and self-efficacy together and independently did not predict their level of school belonging. In fact these variables explained an insignificant 2% of the variance in adolescents' SoSB. The beta weights for standardised coefficients indicate that self-esteem was a greater contributor (ß= -.126) than self-efficacy (ß= -. 017). Thus, the hypothesis that adolescents self-esteem and self-efficacy

predicts their school belonging was unsupported. These findings are inconsistent with Ma's (2003) transition study which demonstrated that high self-esteem was the single most significant predictor of school belonging and participation in subsequent activities in middle school students. Other research has found that adolescents' self-esteem is a significant predictor of social respect (Yelsma & Yelsma, 1998), group affiliation (Witkowski, 1997), and high level bonding (McBride et al., 1995). Adolescents general self-efficacy, measured across nine domains, in relation to SoSB during the transition period to high school has been previously unexplored. Thus further research in this are is necessary.

In response to the second research question, the data suggests that together self-esteem, efficacy, and scholastic competency was unrelated to school belonging and explained 8.5% of the variance in school belonging. However, on its own perceived academic competency in adolescents emerged as a significant predictor of school belong. Interestingly, whilst, general efficacy was an insignificant predictor when scholastic competency was included, scholastic competency was a significant predictor when measured separately. In fact the beta weights for standardised coefficients indicate that academic competency contributed more to the equation than the other variables (ß=.-.302). It may be that the other sub-scales in general efficacy masked the predictive value of scholastic competency when it was included. It is possible that in domains where adolescents were uncertain of their competencies, they may have provided inaccurate measures in these domains, and this may have confounded their overall efficacy scores. For example, it may be that many young adolescents are unsure of their romantic appeal at such an early stage in their adolescent years, and are particularly sensitive about their

physical appearance, suggesting that low scores in this area may have counterbalanced other areas of competency.

However, the data revealed that academic competency was negatively correlated with adolescents school belonging. The fact that decreased levels of academic competency is related to higher levels of school belonging is concerning. These findings are inconsistent with previous studies that have found that adolescents who experience higher SoSB are more inclined to feel academically efficacious (Goodenow & Grady, 1993; Roeser et al., 1996)

Different explanations are offered in explaining these findings. It is plausible that adolescents' academic competency per se, may not be related to school belonging, but is rather a consequence of other mediating variables, such as prior academic achievement, goal-orientation, short tenure in high school, peer relationships, and social interactions. For example, given that competency beliefs are proposed to influence individual effort and persistence within a given context and is derived from prior performance outcomes (Anderman, 2002; 2003; Bandura, 1986; Goodenow & Grady, 1993; Roeser et al., 1996), the negative correlation between adolescents academic competency and school belonging may reflect their prior academic achievement. Previous research in middle schools have demonstrated decreases in adolescents GPA scores during the transition period (Barone et al., 1991; Blyth et al., 1983; Felner et al., 1981; Isakson & Jarvis, 1999; Simmons et al., 1987).

Alternatively, it is plausible that adolescents' academic competency was reflective of the goal-structures the high school and teachers facilitated, with this relationship being mediated through adolescents adopting similar goal structures.

Previous research has demonstrated that the goal structures and educational values schools and teachers foster are related to students' academic motivation and academic competency beliefs (Roeser et al., 1996). However, as both adolescents' academic achievement and goal-orientation was not measured in this study extended interpretation is cautioned.

A further possible variable that may have influenced these findings is that this study was conducted early in the second term of the first year in high school, therefore, it is possible that the short tenure in the new high school may have provided insufficient time for accurate evaluations of adolescents' academic competency. It may also be that for adolescents in this study, attempting to expand their social dimensions, such as peer relationships and increased social interactions, took precedence over academic achievement, thus impacting their academic motivation. Previous research has found that perceived peer support predicted lower academic achievement and academic motivation by year end (Isakson & Jarvis, 1999). A further analysis conducted using social competency and friendship competency subscales (Harter, 1989) would have provided extended interpretations on this issue.

Limitations and Future Directions

There are a number of limitations in this study. First, the reliability and validity of student self-report data in school based research is problematic. Future studies of this nature should consider triangulating findings with other sources of information, such as teacher reports, observational measures, and checklists of school level practices and procedures (Roeser et al., 1996). This would extend the interpretations of current findings. Second, the use of standardized coefficients to compare relative effects of

predictors may be limited because this statistic is influenced by the variances and covariances of other variables (Anderman, 2002). Third, although the percentage of variance in school belonging was insignificant in the first research question and relatively low in the second research question, this is the first study that has attempted to examine these constructs during transition to high school. The fact that academic competency did contribute to adolescents school belonging, although negatively, suggests that further studies of this nature should be conducted to explore this association. Fourth, the study was conducted in a single rural Catholic high school and should be replicated to include more schools and extend generalisability of the findings. However, as the study design used appropriate statistical techniques to examine self-esteem, self-efficacy, and scholastic competency in relation to adolescent school belonging, results are generalisable to the population of adolescents in rural Catholic high schools. Fifth, as the data are correlational the possibilities of other mediating variables remain relatively unexplored. Thus, it is plausible that the negative correlation between academic competency and school belonging may be a consequence of other mediating psychosocial variables. Adolescents' self-esteem, efficacy, academic competency, and school belonging, examined in this study may share stronger relations with other important school outcomes, such as prior academic achievement, peer relationships and social interactions, and goals structures and expectancy for academic success. Thus, future studies of this nature would benefit from including additional variables in attempting to examine adolescent adjustment during the transition period. Sixth, causality cannot be assumed in correlational data. The reciprocal relationship between academic competency and school belonging may be far more prevalent than suggested by the correlational data.

Further replication of this study incorporating longitudinal design and additional analysis would clarify the causal direction of these variables. Finally, consistent with Tabachnick and Fidell's (2001) sample size criteria, the small sample size (N=57) in this study may have affected the multiple regression analysis. Tabachnick and Fidell (2001) assert that a sample size of $N \geq 50 + 8(2 \text{ independent variables}) = 66$ in multiple regression equation is necessary for statistical significance.

Implications for Intervention

Despite these limitations the present study has theoretical and practical implications. Importantly, these findings suggest that adolescents' academic competency may suffer during transition high school, without detrimental effects on their SoSB. However, schools, educators and parents should realize that the finding of lower academic competency related to higher school belonging may be a normative consequence of the transition to high school. Accordingly, high schools and educators should consider incorporating interventions that specifically focus on helping adolescents feel academically efficacious without neglecting other psychosocial dimensions, such as school belonging. Furthermore, high schools and educators should be aware that psychosocial dimensions may vary relative to different school environments (Anderman, 2002). Accordingly, the relationship between low academic competency and higher SoSB may be more prevalent in some schools than others.

Conclusions

The present study suggests that whist adolescents self-esteem and general self-efficacy are unrelated to their school belonging, adolescents academic competency predicted their school belonging. However, academic competency was negatively

correlated with school belonging suggesting that decreases in adolescents academic competency predicted increases in their school belonging. These findings may be explained as consequence of other mediating school-related variables, such as reflecting prior academic achievements, goal-orientation, short tenure in the new high school, and increased emphasis on peer-relationship and social interactions. Peer relationships, social interactions, goal-orientation, and expectancy of academic success may be important for inclusion in future studies of this nature. This would provide further knowledge on how high educators can create school environments that addresses academic, motivational, and social needs in young adolescents.

Despite the limitations in this study, the findings do not undermine the importance of adolescents' perceived self-esteem, self-efficacy, and academic competency in relation to school belonging, but rather, they may suggest that adolescents who feel less academically competent are more inclined to develop and participate in social aspects of their school environment. Thus, by developing social dimensions in the school environment these adolescents are more likely to feel accepted, respected, supported, and cared for, and that they are personally, and their contributions, valued by peers, teachers and other nonparental adults. There is strong support in educational psychology that fostering biopsychosocially appropriate school environments, through developing school belonging, leads to adaptive academic, motivational, behavioural, and social outcomes.

Thus the findings in this study have salient implications for high school, educators and parents by providing an understanding of the mediating variables that operate within high schools and how these variables influence adolescent psychosocial adjustment during the transitional period. Based on this knowledge, interventions programs can be

designed to effectively address the individual developmental needs of adolescents and in turn facilitate successful adjustment to the multiple changes that occur during this transitional period.

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Appendix A
Information Letter and Consent Form for Parents

Dear Parents,

My name is Liz Freeman and as part of my Honours year in Psychology I am required to undertake a research project. The purpose of this letter is to provide you with some details concerning the object of the study and obtain your permission for you child to participate.

This study is focusing on adolescence self-esteem, self-efficacy in relation to sense of belonging during the transition from primary to high school. During early adolescence if children are exposed to factors such as healthy self-esteem and self-efficacy, good coping skills and resilience, these may mitigate against the development of any adverse conditions, such as dropping out of school, depression, suicide, offending behaviour, substance abuse, etc. Sense of belonging is accepted as a protective factor that influences levels of risk. The aim of the current study is to explore some of these factors focusing on self-esteem, self-efficacy and sense of belonging.

I expect that the results of this research will have particular relevance for understanding the transition from primary to high school, and for the development of interventions designed to minimise risk and promote well-being within the schools and for young people in general. The Ethics Committee of the faculty of Community has approved the study.

If you have any queries please contact me on [redacted] or any of my supervisors Dr Lynne Cohen on 63045575 or Julie Anne Pooley on 63045591. If you wish to speak to someone who is independent of this research please contact Professor Alison Garton on 6304511.

If you with your child to participate in the above research please complete the following section and return to the school principal by 17th **May 2004.**

Thanking you for your interest

Yours sincerely

Liz Freeman

.....

Permission Slip

I/We the parent/s of _____in homeroom _____have read the information above and give permission for_____ to participate in this activity if she/he chooses to do so.

Parent name:_____ Parent signature:_____

Appendix B

Rosenberg Self-Esteem Scale

INSTRUCTIONS: Please circle the appropriate number for each statement depending on whether you strongly agree, agree, disagree, or strongly disagree with it.

		Strongly Agree	Agree	Disagree	Strongly Disagree
1.	On the whole, I am satisfied with myself.	1	2	3	4
2.	At times I think I am no good at all.	1	2	3	4
3.	I feel that I have a number of good qualities.	1	2	3	4
4.	I am able to do things as well as most other people.	1	2	3	4
5.	I feel I do not have much to be proud of.	1	2	3	4
6.	I certainly feel useless at times.	1	2	3	4
7.	I feel that I'm a person of worth, a least on an equal plane with others.	1	2	3	4
8.	I wish I could have more respect for myself.	1	2	3	4
9.	All in all, I am inclined to feel that I am a failure.	1	2	3	4
10.	I take a positive attitude toward myself.	1	2	3	4

Appendix C

Self-Perception Profile for Adolescents

What I Am Like

Name_____ Age_____ Birthday_____ Group_____
Month Day

SAMPLE SENTENCE

	Really True for Me	Sort of True for Me			Sort of True for Me	Really True for Me
a)	☐	☐	Some teenagers like to go to movies in their spare time	BUT	Other teenagers would rather go to sports events.	☐	☐
1.	☐	☐	Some teenagers feel that they are just as smart as others their age	BUT	Other teenagers aren't so sure and wonder if they are as smart.	☐	☐
2.	☐	☐	Some teenagers find it hard to make friends	BUT	For other teenagers it's pretty easy.	☐	☐
3.	☐	☐	Some teenagers do very well at all kinds of sports	BUT	Other teenagers don't feel that they are very good when it comes to sports.	☐	☐
4.	☐	☐	Some teenagers are *not* happy with the way they look	BUT	Other teenagers *are* happy with the way they look.	☐	☐
5.	☐	☐	Some teenagers feel that they are ready to do well at a part-time job	BUT	Other teenagers feel that they are not quite ready to handle a part-time job.	☐	☐
6.	☐	☐	Some teenagers feel that if they are romantically interested in someone, that person will like them back	BUT	Other teenagers worry that when they like someone romantically, that person *won't* like them back.	☐	☐
7.	☐	☐	Some teenagers usually do the right thing	BUT	Other teenagers often don't do what they know is right.	☐	☐
8.	☐	☐	Some teenagers are able to make really close friends	BUT	Other teenagers find it hard to make really close friends.	☐	☐
9.	☐	☐	Some teenagers are often disappointed with themselves	BUT	Other teenagers are pretty pleased with themselves.	☐	☐
10.	☐	☐	Some teenagers are pretty slow in finishing their school work	BUT	Other teenagers can do their school work more quickly.	☐	☐
11.	☐	☐	Some teenagers have a lot of friends	BUT	Other teenagers don't have very many friends.	☐	☐
12.	☐	☐	Some teenagers think they could do well at just about any new athletic activity	BUT	Other teenagers are afraid they might not do well at a new athletic activity.	☐	☐

	Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
13.	☐	☐	Some teenagers wish their body was different	BUT	Other teenagers like their body the way it is.	☐	☐
14.	☐	☐	Some teenagers feel that they *don't* have enough skills to do well at a job	BUT	Other teenagers feel that they *do* have enough skills to do a job well.	☐	☐
15.	☐	☐	Some teenagers are *not* dating the people they are really attracted to	BUT	Other teenagers *are* dating those people they are attracted to.	☐	☐
16.	☐	☐	Some teenagers often get in trouble for the things they do	BUT	Other teenagers usually *don't* do things that get them in trouble	☐	☐
17.	☐	☐	Some teenagers do have a close friend they can share secrets with	BUT	Other teenagers do not have a really close friend they can share secrets with	☐	☐
18.	☐	☐	Some teenagers don't like the way they are leading their life	BUT	Other teenagers do like the way they are leading their life.	☐	☐
19.	☐	☐	Some teenagers do very well at their classwork	BUT	Other teenagers don't do very well at their classwork.	☐	☐
20.	☐	☐	Some teenagers are very hard to like	BUT	Other teenagers are really easy to like.	☐	☐
21.	☐	☐	Some teenagers feel that they are better than others their age at sports	BUT	Other teenagers don't feel they can play as well.	☐	☐
22.	☐	☐	Some teenagers wish their physical appearance was different	BUT	Other teenagers like their physical appearance the way it is.	☐	☐
23.	☐	☐	Some teenagers feel they are old enough to get and keep a paying job	BUT	Other teenagers do not feel they are old enough, yet, to really handle a job well	☐	☐
24.	☐	☐	Some teenagers feel that people their age will be romantically attracted to them	BUT	Other teenagers worry about whether people their age will be attracted to them.	☐	☐
25.	☐	☐	Some teenagers feel really good about the way they act	BUT	Other teenagers *don't* feel that good about the way they often act	☐	☐
26.	☐	☐	Some teenagers wish they had a really close friend to share things with	BUT	Other teenagers *do* have a close friend to share things with.	☐	☐
27.	☐	☐	Some teenagers are happy with themselves most of the time	BUT	Other teenagers are often not happy with themselves.	☐	☐
28.	☐	☐	Some teenagers have trouble figuring out the answers in school	BUT	Other teenagers almost always can figure out the answers.	☐	☐

	Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
29.	☐	☐	Some teenagers are popular with others their age	**BUT**	Other teenagers are not very popular.	☐	☐
30.	☐	☐	Some teenagers don't do well at new outdoor games	**BUT**	Other teenagers are good at new games right away.	☐	☐
31.	☐	☐	Some teenagers think that they are good looking	**BUT**	Other teenagers think that they are not very good looking.	☐	☐
32.	☐	☐	Some teenagers feel like they could do better at work they do for pay	**BUT**	Other teenagers feel that they are doing really well at work they do for pay.	☐	☐
33.	☐	☐	Some teenagers feel that they are fun and interesting on a date	**BUT**	Other teenagers wonder about how fun and interesting they are on a date.	☐	☐
34.	☐	☐	Some teenagers do things they know they shouldn't do	**BUT**	Other teenagers hardly ever do things they know they shouldn't do.	☐	☐
35.	☐	☐	Some teenagers find it hard to make friends they can really trust	**BUT**	Other teenagers *are* able to make close friends they can really trust.	☐	☐
36.	☐	☐	Some teenagers like the kind of person they are	**BUT**	Other teenagers often wish they were someone else.	☐	☐
37.	☐	☐	Some teenagers feel that they are pretty intelligent	**BUT**	Other teenagers question whether they are intelligent.	☐	☐
38.	☐	☐	Some teenagers feel that they are socially accepted	**BUT**	Other teenagers wished that more people their age accepted them.	☐	☐
39.	☐	☐	Some teenagers do not feel that they are very athletic	**BUT**	Other teenagers feel that they *are* very athletic.	☐	☐
40.	☐	☐	Some teenagers really like their looks	**BUT**	Other teenagers wish they looked different.	☐	☐
41.	☐	☐	Some teenagers feel that they are really able to handle the work on a paying job	**BUT**	Other teenagers wonder if they are really doing as good a job at work as they should be doing	☐	☐
42.	☐	☐	Some teenagers usually *don't* go out with the people they would really like to date	**BUT**	Other teenagers *do* go out with the people they really want to date.	☐	☐
43.	☐	☐	Some teenagers usually act the way they know they are supposed to	**BUT**	Other teenagers often don't act the way they are supposed to.	☐	☐
44.	☐	☐	Some teenagers *don't* have a friend that is close enough to share really personal thoughts with	**BUT**	Other teenagers do have a close friend that they can share personal thoughts and feelings with.	☐	☐
45.	☐	☐	Some teenagers are very happy being the way they are	**BUT**	Other teenagers wish they were different.	☐	☐

SCORING KEY

What I Am Like

Name_____ Age_____ Birthday_____ Group_____
Month Day

	Really True for Me	Sort of True for Me	SAMPLE SENTENCE			Sort of True for Me	Really True for Me
a)	☐	☐	Some teenagers like to go to movies in their spare time	BUT	Other teenagers would rather go to sports events.	☐	☐
1.	4	3	Some teenagers feel that they are just as smart as others their age	BUT	Other teenagers aren't so sure and wonder if they are as smart.	2	1
2.	1	2	Some teenagers find it hard to make friends	BUT	For other teenagers it's pretty easy.	3	4
3.	4	3	Some teenagers do very well at all kinds of sports	BUT	Other teenagers don't feel that they are very good when it comes to sports.	2	1
4.	1	2	Some teenagers are *not* happy with the way they look	BUT	Other teenagers *are* happy with the way they look.	3	4
5.	4	3	Some teenagers feel that they are ready to do well at a part-time job	BUT	Other teenagers feel that they are not quite ready to handle a part-time job.	2	1
6.	4	3	Some teenagers feel that if they are romantically interested in someone, that person will like them back	BUT	Other teenagers worry that when they like someone romantically, that person *won't* like them back.	2	1
7.	4	3	Some teenagers usually do the right thing	BUT	Other teenagers often don't do what they know is right.	2	1
8.	4	3	Some teenagers are able to make really close friends	BUT	Other teenagers find it hard to make really close friends.	2	1
9.	1	2	Some teenagers are often disappointed with themselves	BUT	Other teenagers are pretty pleased with themselves.	3	4
10.	1	2	Some teenagers are pretty slow in finishing their school work	BUT	Other teenagers can do their school work more quickly.	3	4
11.	4	3	Some teenagers have a lot of friends	BUT	Other teenagers don't have very many friends.	2	1
12.	4	3	Some teenagers think they could do well at just about any new athletic activity	BUT	Other teenagers are afraid they might not do well at a new athletic activity.	2	1

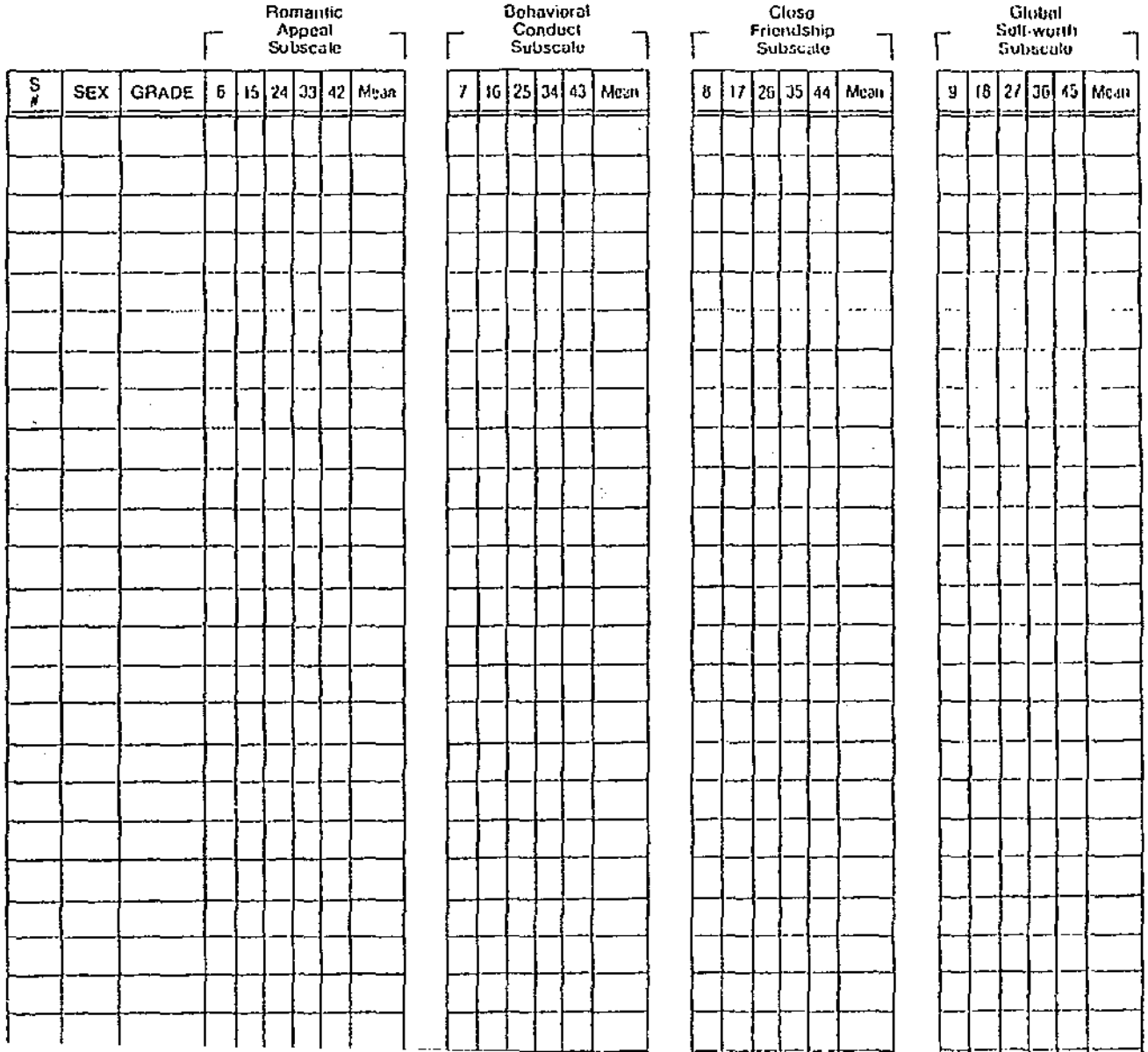
	Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
13.	1	2	Some teenagers wish their body was different	BUT	Other teenagers like their body the way it is.	3	4
14.	1	2	Some teenagers feel that they *don't* have enough skills to do well at a job	BUT	Other teenagers feel that they *do* have enough skills to do a job well.	3	4
15.	1	2	Some teenagers are *not* dating the people they are really attracted to	BUT	Other teenagers *are* dating those people they are attracted to.	3	4
16.	1	2	Some teenagers often get in trouble for the things they do	BUT	Other teenagers usually *don't* do things that get them in trouble	3	4
17.	4	3	Some teenagers do have a close friend they can share secrets with	BUT	Other teenagers do not have a really close friend they can share secrets with	2	1
18.	1	2	Some teenagers don't like the way they are leading their life	BUT	Other teenagers do like the way they are leading their life.	3	4
19.	4	3	Some teenagers do very well at their classwork	BUT	Other teenagers don't do very well at their classwork.	2	1
20.	1	2	Some teenagers are very hard to like	BUT	Other teenagers are really easy to like.	3	4
21.	4	3	Some teenagers feel that they are better than others their age at sports	BUT	Other teenagers don't feel they can play as well.	2	1
22.	1	2	Some teenagers wish their physical appearance was different	BUT	Other teenagers like their physical appearance the way it is.	3	4
23.	4	3	Some teenagers feel they are old enough to get and keep a paying job	BUT	Other teenagers do not feel they are old enough, yet, to really handle a job well	2	1
24.	4	3	Some teenagers feel that people their age will be romantically attracted to them	BUT	Other teenagers worry about whether people their age will be attracted to them.	2	1
25.	4	3	Some teenagers feel really good about the way they act	BUT	Other teenagers *don't* feel that good about the way they often act	2	1
26.	1	2	Some teenagers wish they had a really close friend to share things with	BUT	Other teenagers *do* have a close friend to share things with.	3	4
27.	4	3	Some teenagers are happy with themselves most of the time	BUT	Other teenagers are often not happy with themselves.	2	1
28.	1	2	Some teenagers have trouble figuring out the answers in school	BUT	Other teenagers almost always can figure out the answers.	3	4

	Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
29.	4	3	Some teenagers are popular with others their age	BUT	Other teenagers are not very popular.	2	1
30.	1	2	Some teenagers don't do well at new outdoor games	BUT	Other teenagers are good at new games right away.	3	4
31.	4	3	Some teenagers think that they are good looking	BUT	Other teenagers think that they are not very good looking.	2	1
32.	1	2	Some teenagers feel like they could do better at work they do for pay	BUT	Other teenagers feel that they are doing really well at work they do for pay.	3	4
33.	4	3	Some teenagers feel that they are fun and interesting on a date	BUT	Other teenagers wonder about how fun and interesting they are on a date.	2	1
34.	1	2	Some teenagers do things they know they shouldn't do	BUT	Other teenagers hardly ever do things they know they shouldn't do.	3	4
35.	1	2	Some teenagers find it hard to make friends they can really trust	BUT	Other teenagers are able to make close friends they can really trust.	3	4
36.	4	3	Some teenagers like the kind of person they are	BUT	Other teenagers often wish they were someone else.	2	1
37.	4	3	Some teenagers feel that they are pretty intelligent	BUT	Other teenagers question whether they are intelligent.	2	1
38.	4	3	Some teenagers feel that they are socially accepted	BUT	Other teenagers wished that more people their age accepted them.	2	1
39.	1	2	Some teenagers do not feel that they are very athletic	BUT	Other teenagers feel that they *are* very athletic.	3	4
40.	4	3	Some teenagers really like their looks	BUT	Other teenagers wish they looked different.	2	1
41.	4	3	Some teenagers feel that they are really able to handle the work on a paying job	BUT	Other teenagers wonder if they are really doing as good a job at work as they should be doing	2	1
42.	1	2	Some teenagers usually *don't* go out with the people they would really like to date	BUT	Other teenagers *do* go out with the people they really want to date.	3	4
43.	4	3	Some teenagers usually act the way they know they are supposed to	BUT	Other teenagers often don't act the way they are supposed to.	2	1
44.	1	2	Some teenagers *don't* have a friend that is *close* enough to share really personal thoughts with	BUT	Other teenagers do have a close friend that they can share personal thoughts and feelings with.	3	4

DATA CODING SHEET FOR SELF-PERCEPTION PROFILE FOR ADOLESCENTS

Susan Harter, University of Denver, 1980

S #	SEX	GRADE	Scholastic Competence Subscale						Social Acceptance Subscale						Athletic Competence Subscale						Physical Appearance Subscale						Job Competence Subscale					
			1	10	19	28	37	Mean	2	11	20	29	38	Mean	3	12	21	30	39	Mean	4	13	22	31	40	Mean	5	14	23	32	41	Mean


Romantic Appeal Subscale
Behavioral Conduct Subscale
Close Friendship Subscale
Global Self-worth Subscale
S #
SEX
GRADE
6
15
24
33
42
Mean
7
16
25
34
43
Mean
8
17
26
35
44
Mean
9
18
27
36
45
Mean

Appendix F

The Psychological Sense of School Membership (PSSM) Scale

---

1. I feel like a real part of (name of school).
2. People here notice when I'm good at something.
3. It is hard for people like me to be accepted here. (*Reversed*)
4. Other students in this school take my opinions seriously.
5. Most teachers at (name of school) are interested in me.
6. Sometimes I feel as if I don't belong here. (*Reversed*)
7. There's at least one teacher or other adult in this school I can talk to if I have a problem.
8. People at this school are friendly to me.
9. Teachers here are not interested in people like me. (*Reversed*)
10. I am included in lots of activities at (name of school).
11. I am treated with as much respect as other students are.
12. I feel very different from most other students here. (*Reversed*)
13. I can really be myself at this school.
14. The teachers here respect me.
15. People here know I can do good work.
16. I wish I were in a different school. (*Reversed*)
17. I feel proud of belonging to (name of school).
18. Other students here like me the way I am.

Note. From "The Psychological Sense of School Membership Among Adolescents: Scale Development and Educational Correlates," by C. Goodenow, 1993, Psychology in the Schools, 30, p. 84.

Name:_____Boy/Girl Year_____

Class:_____Age:_____DOB_____

	Not at all true	Hardly ever true	Sometimes true	Usually true	Always true
1	☐	☐	☐	☐	☐
2	☐	☐	☐	☐	☐
3	☐	☐	☐	☐	☐
4	☐	☐	☐	☐	☐
5	☐	☐	☐	☐	☐
6	☐	☐	☐	☐	☐
7	☐	☐	☐	☐	☐
8	☐	☐	☐	☐	☐
9	☐	☐	☐	☐	☐
10	☐	☐	☐	☐	☐
11	☐	☐	☐	☐	☐
12	☐	☐	☐	☐	☐
13	☐	☐	☐	☐	☐
14	☐	☐	☐	☐	☐

15	☐	☐	☐	☐	☐
16	☐	☐	☐	☐	☐
17	☐	☐	☐	☐	☐
18	☐	☐	☐	☐	☐

Appendix G

Student Participant Consent Form

Dear Student,

My name is Liz Freeman and as part of my Honours year in Psychology I am required to undertake a research project. The purpose of this letter is to provide you with some details concerning the aim of the project and obtain your permission for you to participate.

Beginning high school is a different experience for each individual student and is a particularly important time during your development as young adolescents. I am interested in different aspects of your school environment. I have a series of questions that I would like you to answer and that will give me some knowledge about what these terms mean to you. Your participation in this study is purely voluntary. It is important that you understand that the information you provide will be anonymous and should you choose to withdraw from this study at any time your information will be deleted. You are not required to reveal your name on any of the questionnaires, only your initials will be required on the Student Participation Consent Form. Please complete the attached Student Participation Consent Form and raise your hand for it to be collected before you start the questionnaires.

Your time and effort is appreciated. Thank you for participating in this study

Liz Freeman

Student Participation Consent Form

I was provided with information about this study ☐

I was given an opportunity to ask questions about this study ☐

The answers that were provided by Liz satisfied my question(s) ☐

I understand the information given to me ☐

I understand my participation in this study is voluntary ☐

I understand that I can withdraw my participation at any time I choose without any consequences. ☐

Your Initials:_____

Date: _____

Appendix H

Student Participant Demographic Form

Age: Years ☐ Months ☐

Gender: Male ☐ Female ☐

The people in my home that work include:

- Mother ☐
- Step-mother ☐
- Father ☐
- Step-father ☐
- Parent's partner ☐
- Brother/s ☐
- Sister/s ☐
- Step-brother ☐
- Step-sister ☐
- Grandparent/s ☐
- Other ☐

My nationality is:_____

My place of birth is_____

I have been living in Bunbury for about _____years and _____months.

Frequencies

Appendix I

Statistics

Belonging

N	Valid	57
	Missing	0

Belonging

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.72	1	1.8	1.8	1.8
	2.77	1	1.8	1.8	3.5
	2.83	1	1.8	1.8	5.3
	2.94	1	1.8	1.8	7.0
	3.00	1	1.8	1.8	8.8
	3.05	1	1.8	1.8	10.5
	3.11	1	1.8	1.8	12.3
	3.16	1	1.8	1.8	14.0
	3.22	2	3.5	3.5	17.5
	3.33	1	1.8	1.8	19.3
	3.38	2	3.5	3.5	22.8
	3.55	1	1.8	1.8	24.6
	3.61	1	1.8	1.8	26.3
	3.66	2	3.5	3.5	29.8
	3.72	1	1.8	1.8	31.6
	3.83	2	3.5	3.5	35.1
	3.88	6	10.5	10.5	45.6
	3.94	4	7.0	7.0	52.6
	4.00	4	7.0	7.0	59.6
	4.05	1	1.8	1.8	61.4
	4.11	4	7.0	7.0	68.4
	4.22	4	7.0	7.0	75.4
	4.27	1	1.8	1.8	77.2
	4.33	1	1.8	1.8	78.9
	4.44	3	5.3	5.3	84.2
	4.50	2	3.5	3.5	87.7
	4.61	1	1.8	1.8	89.5
	4.66	2	3.5	3.5	93.0
	4.77	1	1.8	1.8	94.7
	4.83	1	1.8	1.8	96.5
	4.88	1	1.8	1.8	98.2
	5.00	1	1.8	1.8	100.0
	Total	57	100.0	100.0	

Explore

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Belonging	57	100.0%	0	.0%	57	100.0%

Descriptives

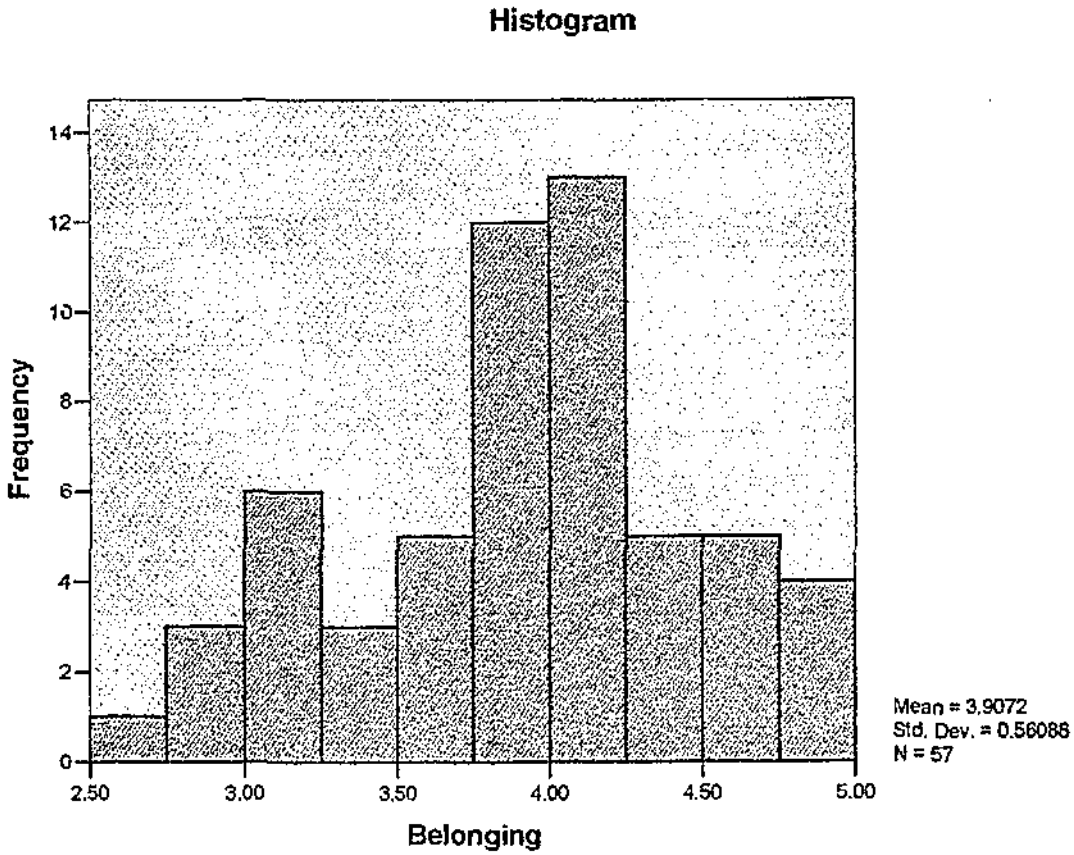
			Statistic	Std. Error
Belonging	Mean		3.9072	.07429
	95% Confidence Interval for Mean	Lower Bound	3.7584	
		Upper Bound	4.0560	
	5% Trimmed Mean		3.9148	
	Median		3.9400	
	Variance		.315	
	Std. Deviation		.56088	
	Minimum		2.72	
	Maximum		5.00	
	Range		2.28	
	Interquartile Range		.67	
	Skewness		-.297	.316
	Kurtosis		-.430	.623

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Belonging	.130	57	.018	.971	57	.193

a. Lilliefors Significance Correction

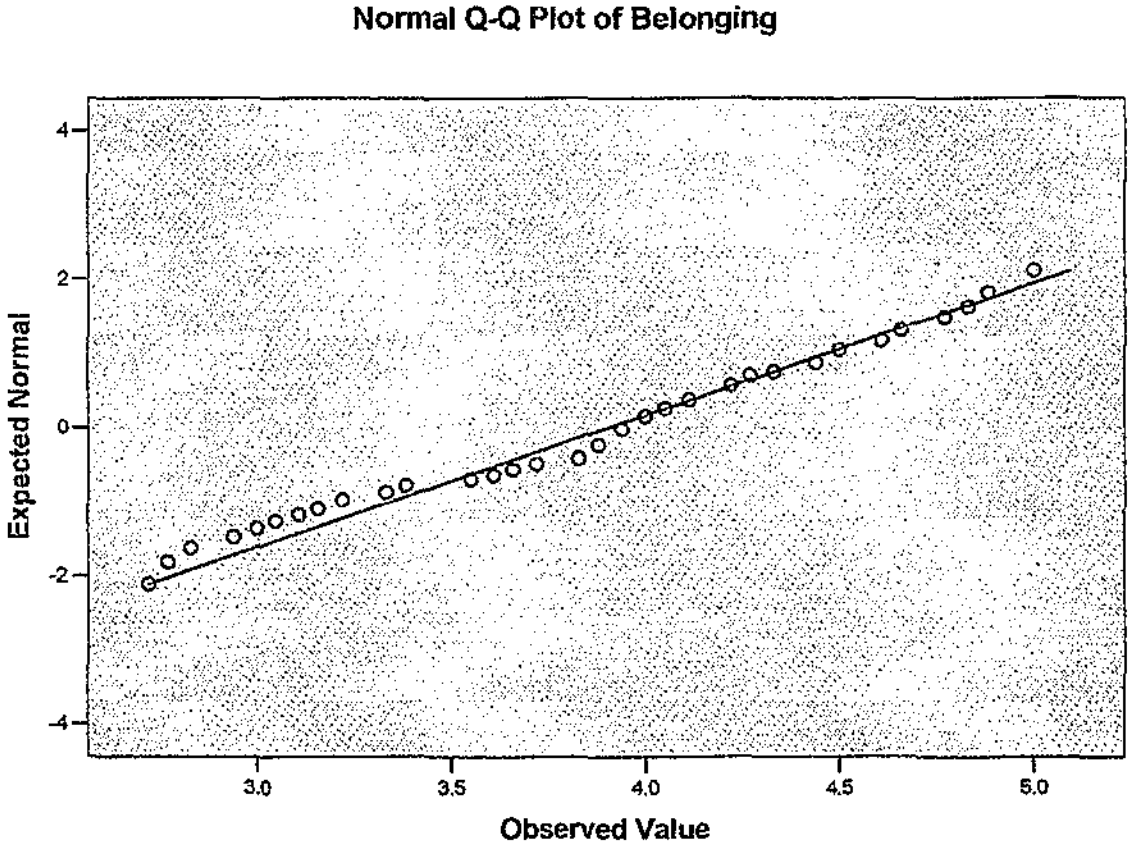
Belonging

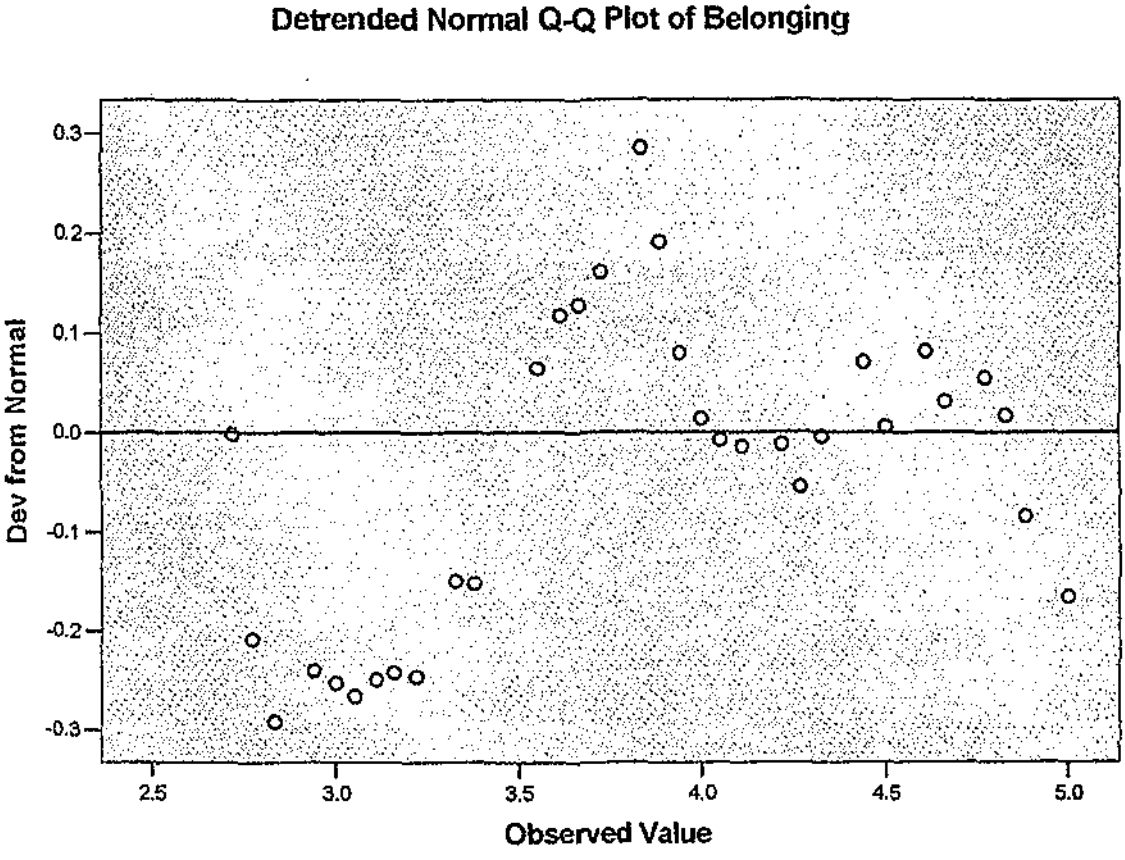


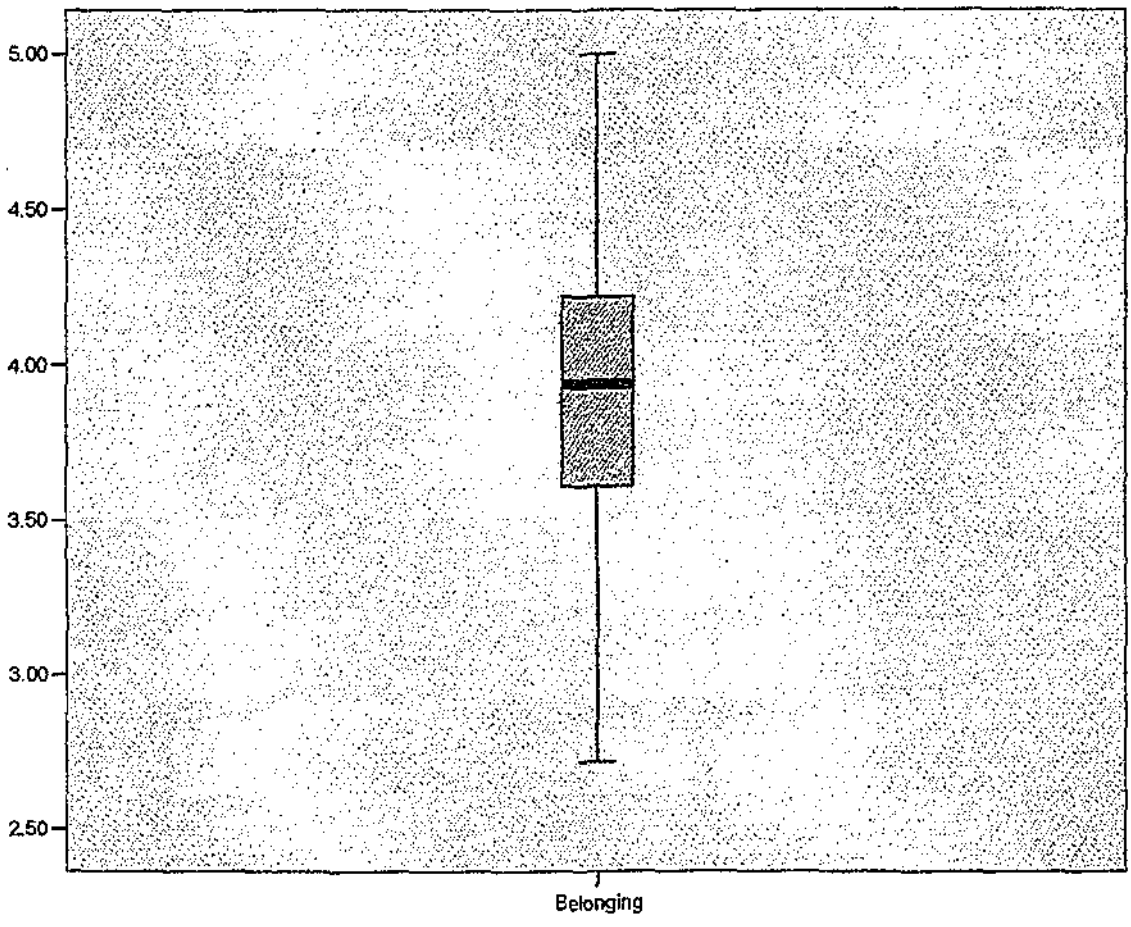
Belonging Stem-and-Leaf Plot

Frequency	Stem &	Leaf
4.00	2 .	7789
9.00	3 .	001122333
17.00	3 .	56667888888889999
18.00	4 .	000001111222223444
8.00	4 .	55666788
1.00	5 .	0

Stem width: 1.00
Each leaf: 1 case(s)




Detrended Normal Q-Q Plot of Belonging
Dev from Normal
0.3
0.2
0.1
0.0
-0.1
-0.2
-0.3
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value


5.00
4.50
4.00
3.50
3.00
2.50
Belonging

Frequencies

Statistics

		Esteem	Efficacy	Belonging
N	Valid	57	57	57
	Missing	0	0	0

Frequency Table

Esteem

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.40	1	1.8	1.8	1.8
	2.50	8	14.0	14.0	15.8
	2.60	9	15.8	15.8	31.6
	2.70	15	26.3	26.3	57.9
	2.80	11	19.3	19.3	77.2
	2.90	6	10.5	10.5	87.7
	3.00	7	12.3	12.3	100.0
	Total	57	100.0	100.0	

Efficacy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.22	1	1.8	1.8	1.8
	2.32	2	3.5	3.5	5.3
	2.33	1	1.8	1.8	7.0
	2.35	1	1.8	1.8	8.8
	2.40	1	1.8	1.8	10.5
	2.46	2	3.5	3.5	14.0
	2.47	1	1.8	1.8	15.8
	2.51	2	3.5	3.5	19.3
	2.60	1	1.8	1.8	21.1
	2.69	2	3.5	3.5	24.6
	2.73	1	1.8	1.8	26.3
	2.76	1	1.8	1.8	28.1
	2.80	2	3.5	3.5	31.6
	2.82	1	1.8	1.8	33.3
	2.84	1	1.8	1.8	35.1
	2.87	1	1.8	1.8	36.8
	2.89	1	1.8	1.8	38.6
	2.91	4	7.0	7.0	45.6
	2.98	1	1.8	1.8	47.4
	3.00	1	1.8	1.8	49.1
	3.04	1	1.8	1.8	50.9
	3.08	1	1.8	1.8	52.6
	3.13	2	3.5	3.5	56.1
	3.20	2	3.5	3.5	59.6
	3.22	1	1.8	1.8	61.4
	3.24	2	3.5	3.5	64.9
	3.27	1	1.8	1.8	66.7
	3.29	1	1.8	1.8	68.4
	3.33	1	1.8	1.8	70.2
	3.36	1	1.8	1.8	71.9
	3.38	1	1.8	1.8	73.7
	3.40	2	3.5	3.5	77.2
	3.42	3	5.3	5.3	82.5
	3.48	1	1.8	1.8	84.2
	3.51	1	1.8	1.8	86.0
	3.53	1	1.8	1.8	87.7
	3.57	1	1.8	1.8	89.5
	3.67	1	1.8	1.8	91.2
	3.71	1	1.8	1.8	93.0
	3.73	3	5.3	5.3	98.2
	3.75	1	1.8	1.8	100.0
	Total	57	100.0	100.0	

Belonging

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.72	1	1.8	1.8	1.8
	2.77	1	1.8	1.8	3.5
	2.83	1	1.8	1.8	5.3
	2.94	1	1.8	1.8	7.0
	3.00	1	1.8	1.8	8.8
	3.05	1	1.8	1.8	10.5
	3.11	1	1.8	1.8	12.3
	3.16	1	1.8	1.8	14.0
	3.22	2	3.5	3.5	17.5
	3.33	1	1.8	1.8	19.3
	3.38	2	3.5	3.5	22.8
	3.55	1	1.8	1.8	24.6
	3.61	1	1.8	1.8	26.3
	3.66	2	3.5	3.5	29.8
	3.72	1	1.8	1.8	31.6
	3.83	2	3.5	3.5	35.1
	3.88	6	10.5	10.5	45.6
	3.94	4	7.0	7.0	52.6
	4.00	4	7.0	7.0	59.6
	4.05	1	1.8	1.8	61.4
	4.11	4	7.0	7.0	68.4
	4.22	4	7.0	7.0	75.4
	4.27	1	1.8	1.8	77.2
	4.33	1	1.8	1.8	78.9
	4.44	3	5.3	5.3	84.2
	4.50	2	3.5	3.5	87.7
	4.61	1	1.8	1.8	89.5
	4.66	2	3.5	3.5	93.0
	4.77	1	1.8	1.8	94.7
	4.83	1	1.8	1.8	96.5
	4.88	1	1.8	1.8	98.2
	5.00	1	1.8	1.8	100.0
	Total	57	100.0	100.0	

Explore

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Esteem	57	100.0%	0	.0%	57	100.0%
Efficacy	57	100.0%	0	.0%	57	100.0%

Descriptives

			Statistic	Std. Error
Esteem	Mean		2.7281	.02120
	95% Confidence Interval for Mean	Lower Bound	2.6856	
		Upper Bound	2.7705	
	5% Trimmed Mean		2.7276	
	Median		2.7000	
	Variance		.026	
	Std. Deviation		.16008	
	Minimum		2.40	
	Maximum		3.00	
	Range		.60	
	Interquartile Range		.20	
	Skewness		.117	.316
	Kurtosis		-.762	.623
Efficacy	Mean		3.0358	.05764
	95% Confidence Interval for Mean	Lower Bound	2.9203	
		Upper Bound	3.1512	
	5% Trimmed Mean		3.0385	
	Median		3.0400	
	Variance		.189	
	Std. Deviation		.43514	
	Minimum		2.22	
	Maximum		3.75	
	Range		1.53	
	Interquartile Range		.69	
	Skewness		-.114	.316
	Kurtosis		-1.022	.623

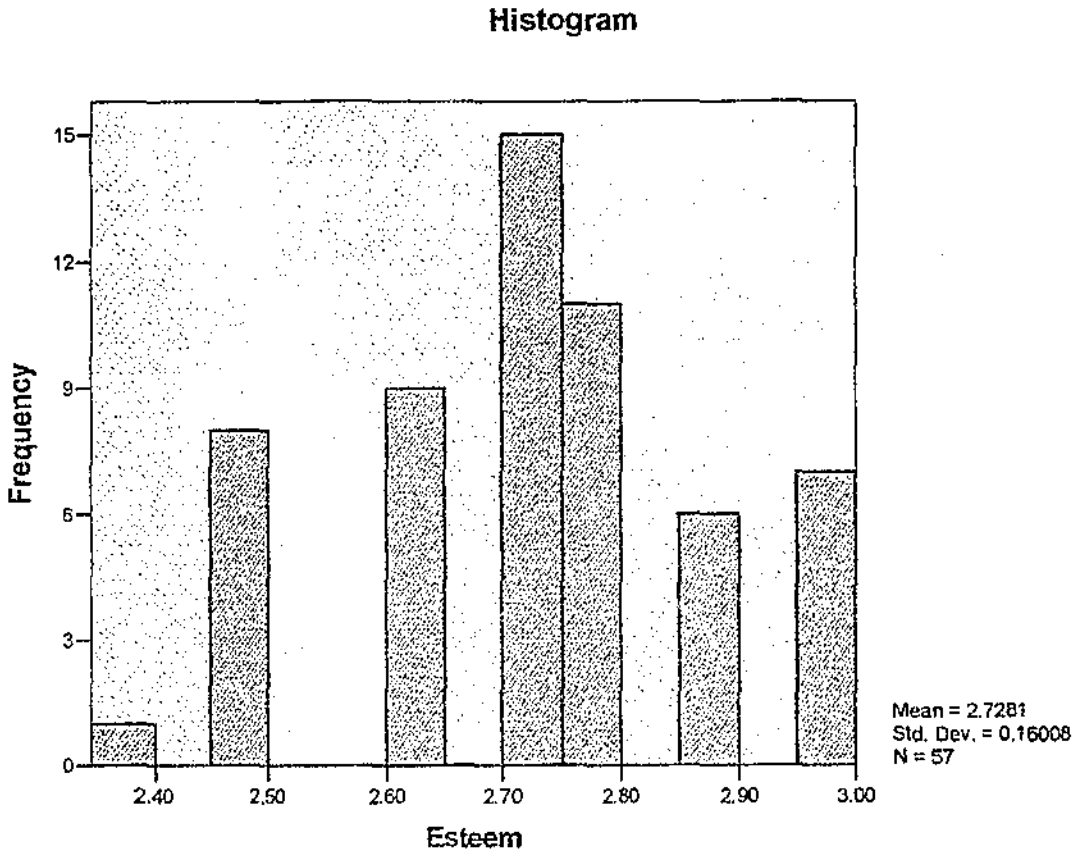
Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Esteem	.149	57	.003	.940	57	.007
Efficacy	.086	57	.200*	.960	57	.059

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

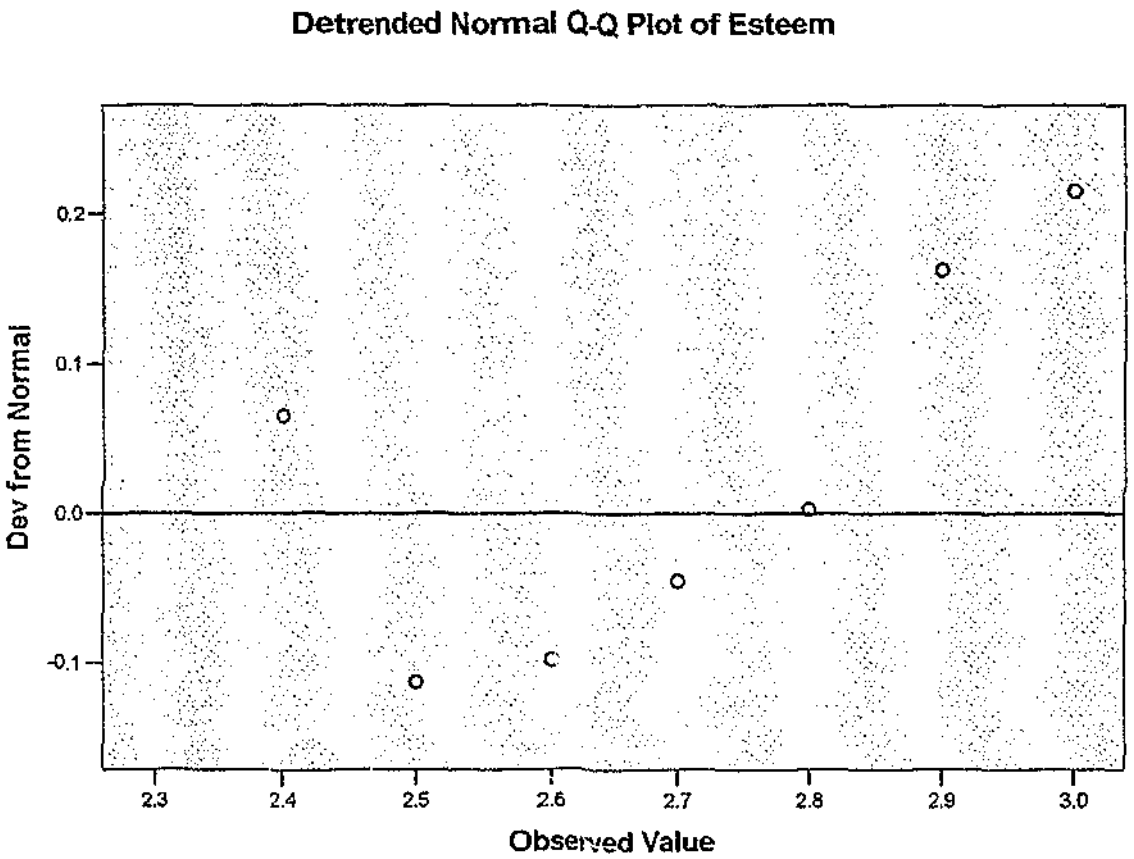
Esteem

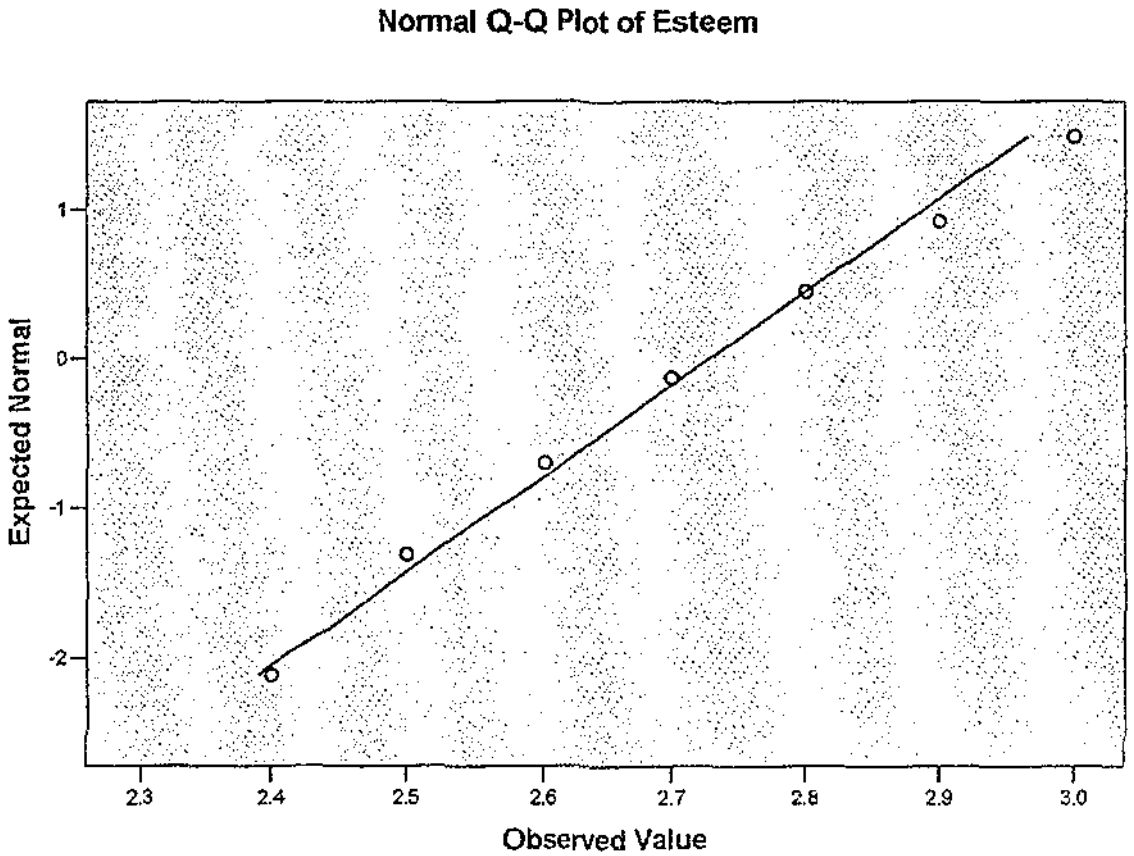


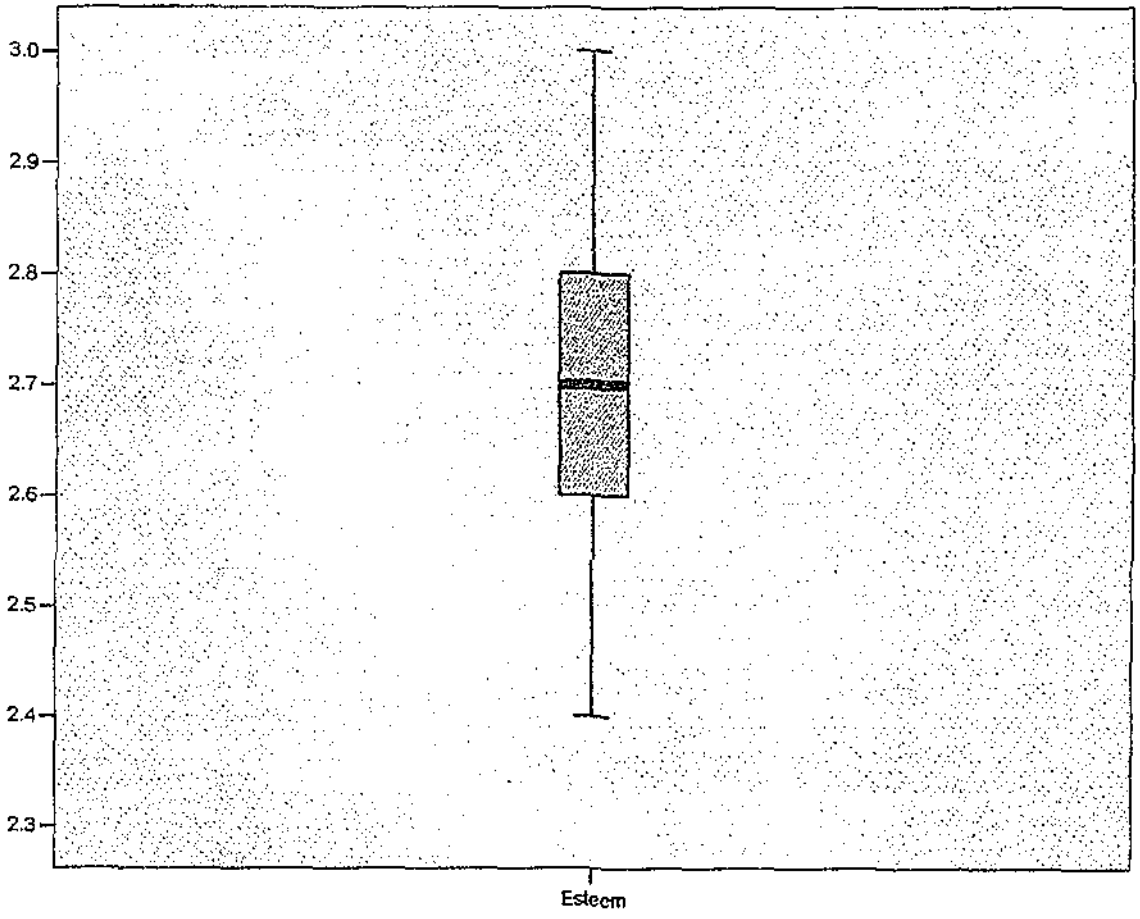
Esteem Stem-and-Leaf Plot

Frequency	Stem &	Leaf
1.00	24 .	0
8.00	25 .	00000000
9.00	26 .	000000000
15.00	27 .	000000000000000
11.00	28 .	00000000000
6.00	29 .	000000
7.00	30 .	0000000

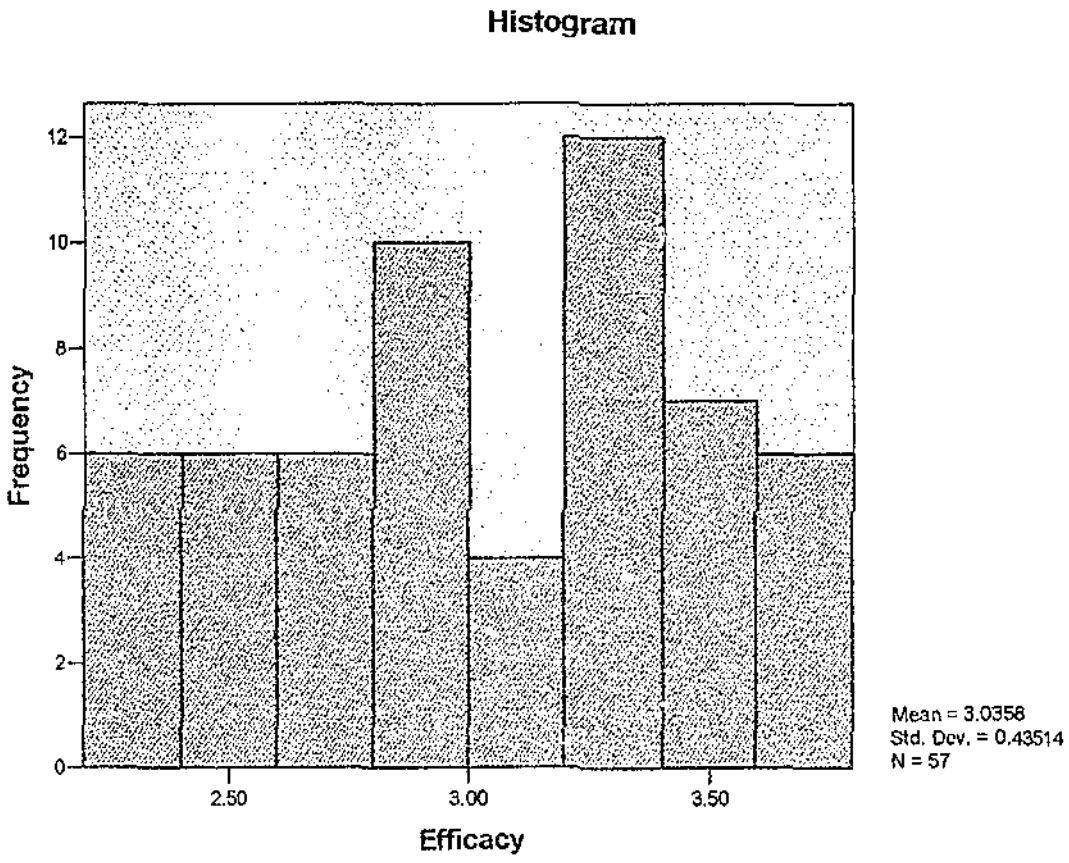
Stem width: .10
Each leaf: 1 case(s)


Detrended Normal Q-Q Plot of Esteem
Dev from Normal
0.2
0.1
0.0
-0.1
2.3
2.4
2.5
2.6
2.7
2.8
2.9
3.0
Observed Value


Normal Q-Q Plot of Esteem
Expected Normal
1
0
-1
-2
2.3
2.4
2.5
2.6
2.7
2.8
2.9
3.0
Observed Value



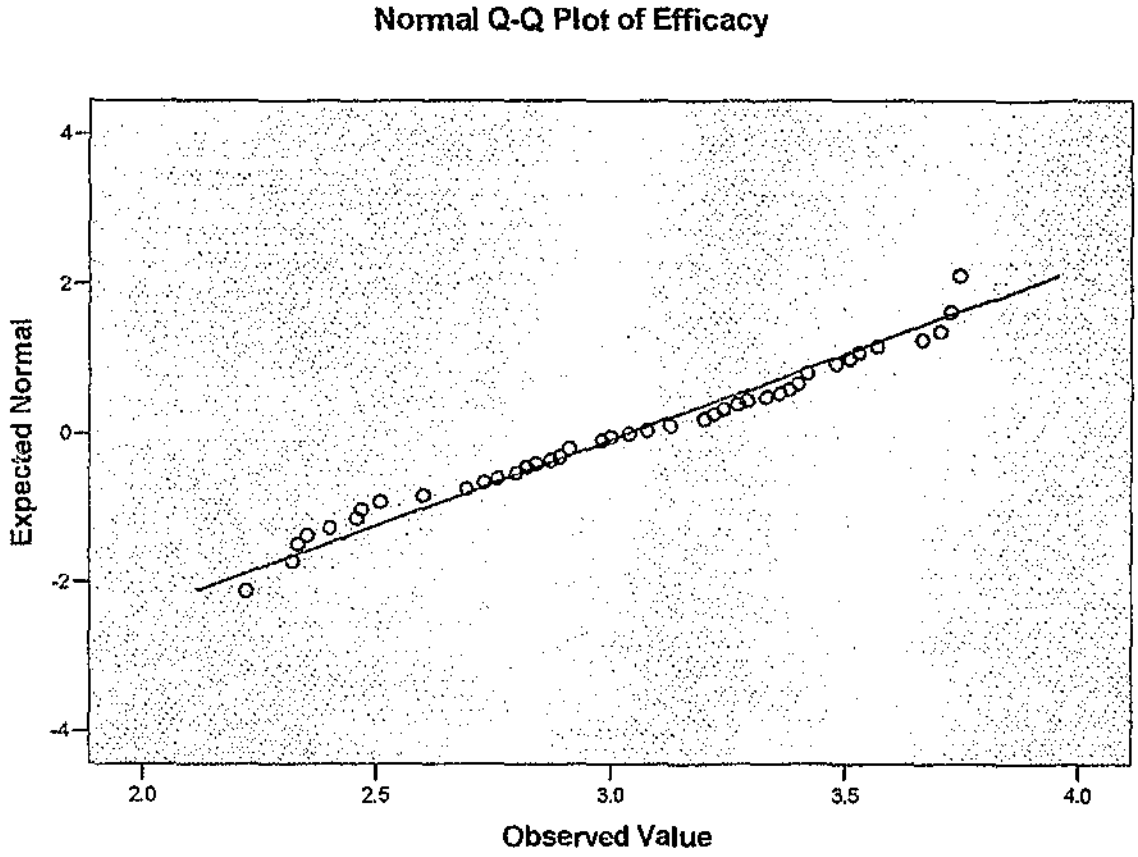
Efficacy

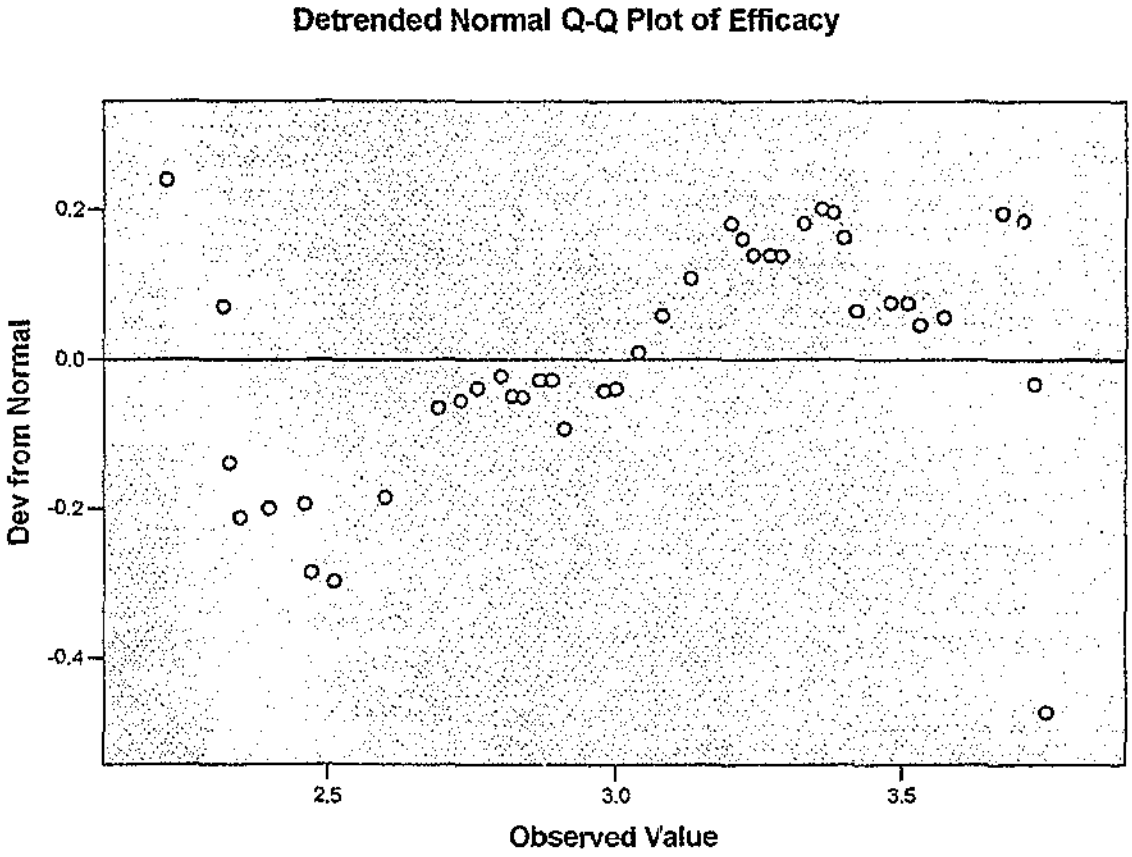


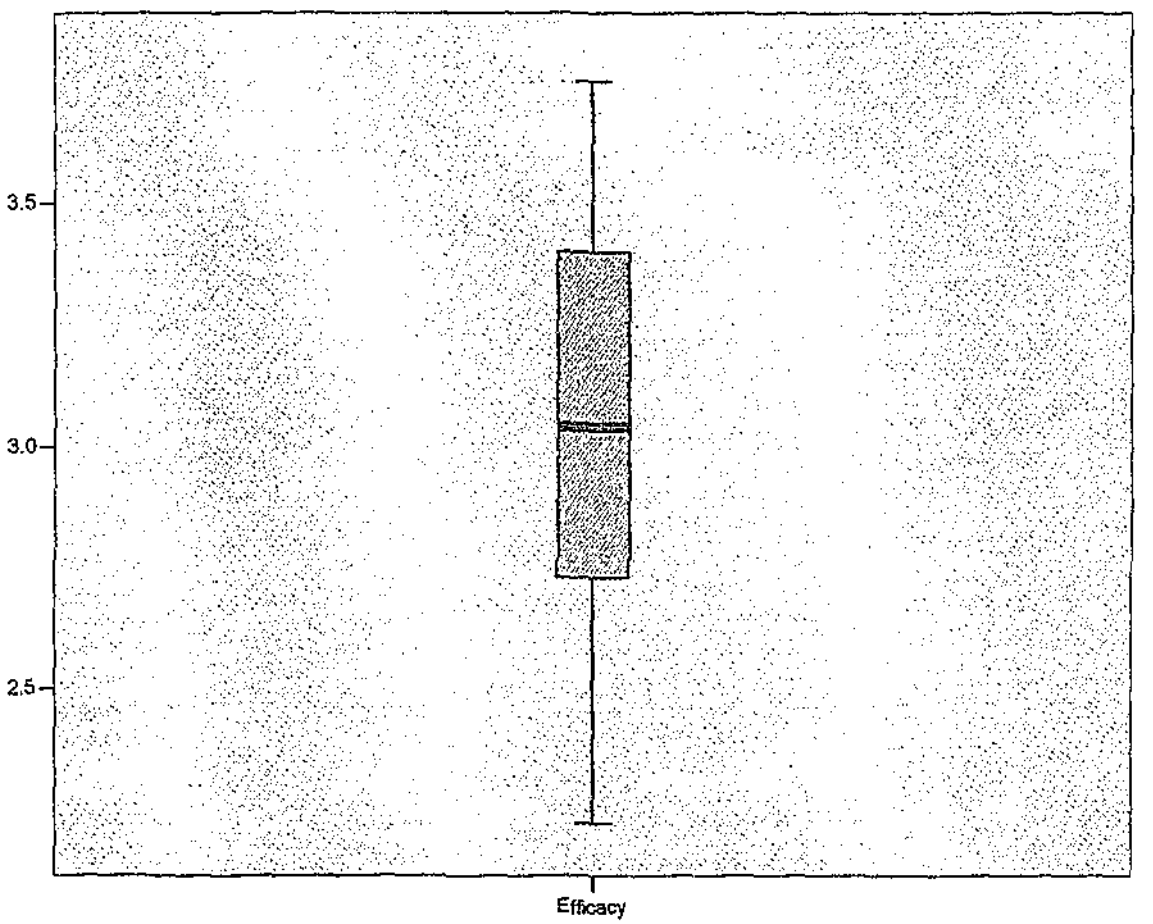
Efficacy Stem-and-Leaf Plot

Frequency	Stem &	Leaf
5.00	2 .	23333
6.00	2 .	444455
5.00	2 .	66677
11.00	2 .	88888899999
5.00	3 .	00011
10.00	3 .	2222222333
9.00	3 .	444444555
6.00	3 .	677777

Stem width: 1.00
Each leaf: 1 case(s)


Normal Q-Q Plot of Efficacy
Expected Normal
4
2
0
-2
-4
2.0
2.5
3.0
3.5
4.0
Observed Value


Detrended Normal Q-Q Plot of Efficacy
Dev from Normal
0.2
0.0
-0.2
-0.4
2.5
3.0
3.5
Observed Value


3.5
3.0
2.5
Efficacy

Appendix J

	Belonging	Esteem	Efficacy	MAH_1
1	3.88	2.50	3.40	3.52858
2	3.88	2.60	2.32	2.67292
3	3.38	3.00	3.42	3.11650
4	3.94	2.40	2.91	4.24871
5	3.33	2.70	3.75	3.04991
6	3.88	3.00	2.69	4.44797
7	3.00	2.90	2.89	1.53496
8	4.44	2.60	3.51	2.40050
9	3.72	2.70	2.32	2.76149
10	3.83	2.50	2.91	2.03369
11	3.94	2.60	2.47	1.93663
12	3.83	2.50	2.46	3.03814
13	2.72	2.60	2.87	.67629
14	2.83	2.80	3.67	2.13318
15	4.50	2.90	3.40	1.50325
16	4.83	2.80	3.36	.63065
17	4.44	2.50	2.60	2.48173
18	3.11	2.80	3.38	.69499
19	4.44	2.50	2.76	2.11560
20	2.94	3.00	3.73	4.36301
21	3.05	2.60	3.04	.68524
22	3.16	2.70	3.29	.44944
23	3.94	3.00	2.98	3.20190
24	4.27	2.70	2.73	.49385
25	4.00	2.80	3.27	.39676
26	3.88	2.70	2.82	.24898
27	4.77	2.70	3.24	.31009
28	4.22	2.80	3.48	1.08414
29	4.61	2.80	3.57	1.53047
30	5.00	2.50	3.71	5.86812
31	4.22	3.00	3.33	2.95694
32	4.66	2.60	2.91	.64917
33	3.66	2.70	2.69	.63191
34	4.22	2.50	2.51	2.81413
35	3.61	2.50	2.80	2.06903
36	3.38	2.70	3.20	.21884
37	3.22	2.60	3.20	.99040
38	3.88	2.90	2.22	6.01986
39	4.11	2.90	3.08	1.18144
40	4.11	2.80	3.42	.83716
41	4.00	2.70	3.73	2.88738
42	3.66	2.60	2.33	2.80263
43	4.00	3.00	3.13	2.92832
44	3.55	2.70	3.53	1.50946

	Belonging	Esteem	Efficacy	MAH_1
45	3.22	2.80	3.73	2.54876
46	4.05	2.80	2.80	.65453
47	4.66	2.70	3.00	.03238
48	4.11	3.00	3.42	3.11650
49	4.50	2.80	2.40	2.82971
50	4.[illegible]	2.80	2.84	.53593
51	[illegible]	2.90	2.35	4.75513
52	3.88	2.90	3.22	1.18061
53	4.22	2.60	2.51	1.72967
54	3.94	2.70	2.46	1.77473
55	4.00	2.70	3.13	.10244
56	4.11	2.70	3.24	.31009
57	4.33	2.70	2.91	.09516

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Belonging	3.9072	.56088	57
Esteem	2.7281	.16008	57
Efficacy	3.0358	.43514	57

Correlations

		Belonging	Esteem	Efficacy
Pearson Correlation	Belonging	1.000	-.131	-.048
	Esteem	-.131	1.000	.246
	Efficacy	-.048	.246	1.000
Sig. (1-tailed)	Belonging	.	.166	.360
	Esteem	.166	.	.033
	Efficacy	.360	.033	.
N	Belonging	57	57	57
	Esteem	57	57	57
	Efficacy	57	57	57

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Efficacy, Esteem[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Belonging

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.132[a]	.017	-.019	.56619

Model Summary[b]

	Change Statistics				
Model	R Square Change	F Change	df1	df2	Sig. F Change
1	.017	.478	2	54	.623

a. Predictors: (Constant), Efficacy, Esteem

b. Dependent Variable: Belonging

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.306	2	.153	.478	.623[a]
	Residual	17.311	54	.321		
	Total	17.617	56			

a. Predictors: (Constant), Efficacy, Esteem

b. Dependent Variable: Belonging

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.184	1.310		3.958	.000
	Esteem	-.443	.488	-.126	-.909	.367
	Efficacy	-.022	.179	-.017	-.125	.901

a. Dependent Variable: Belonging

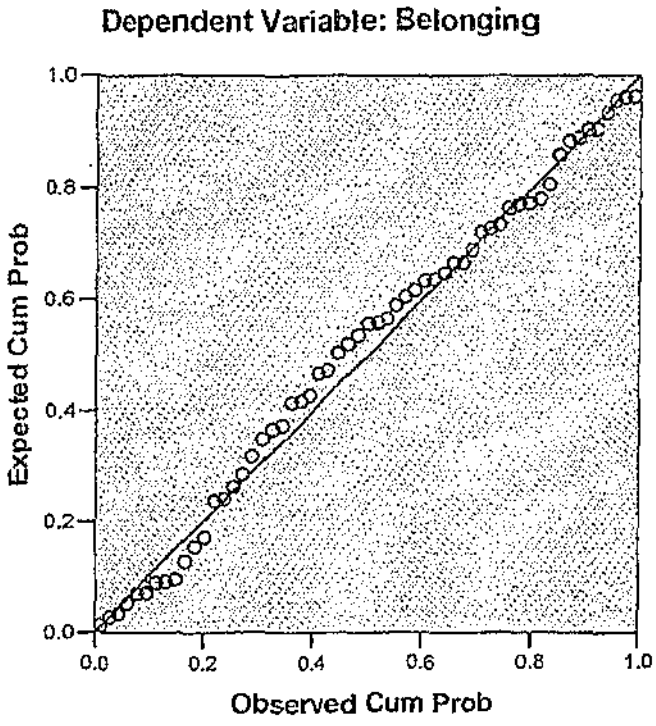
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.7711	4.0554	3.9072	.07395	57
Std. Predicted Value	-1.840	2.004	.000	1.000	57
Standard Error of Predicted Value	.076	.200	.126	.032	57
Adjusted Predicted Value	3.7468	4.0673	3.9085	.07810	57
Residual	-1.24767	1.00686	.00000	.55598	57
Std. Residual	-2.204	1.778	.000	.982	57
Stud. Residual	-2.237	1.898	-.001	1.008	57
Deleted Residual	-1.28576	1.14720	-.00127	.58650	57
Stud. Deleted Residual	-2.327	1.947	-.004	1.023	57
Mahal. Distance	.032	6.020	1.965	1.470	57
Cook's Distance	.000	.167	.018	.032	57
Centered Leverage Value	.001	.107	.035	.026	57

a. Dependent Variable: Belonging

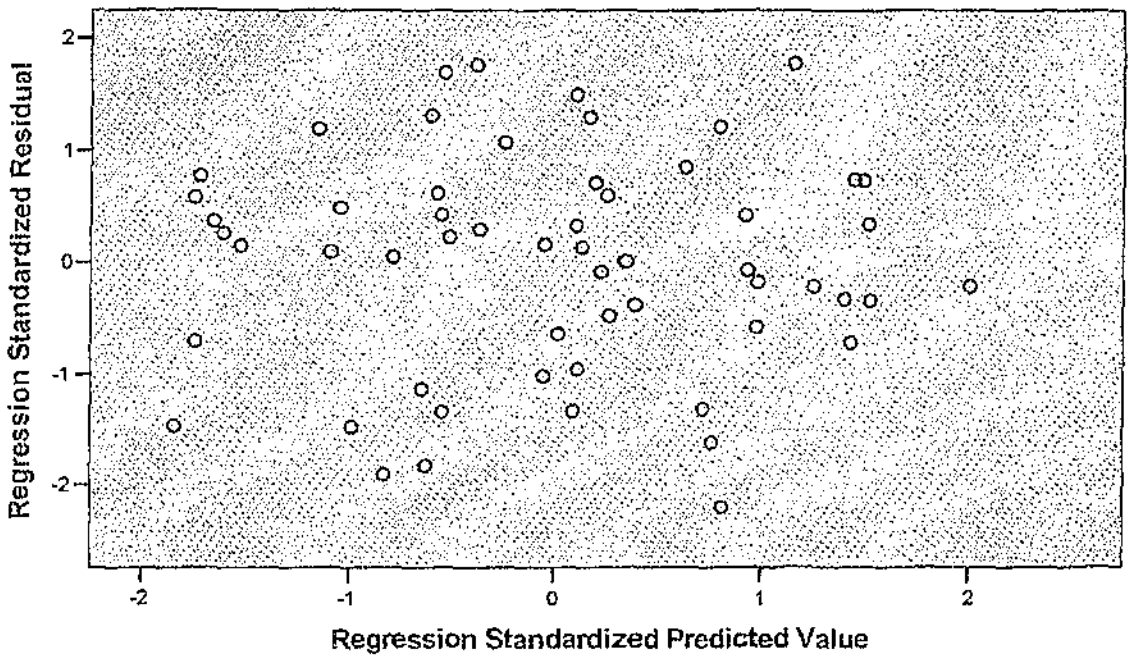
Charts

Normal P-P Plot of Regression Standardized Residual



Scatterplot

Dependent Variable: Belonging



Appendix L

Frequencies

Statistics

		Scholistic	Efficacy
N	Valid	57	57
	Missing	0	0

Frequency Table

Scholistic

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.60	3	5.3	5.3	5.3
	1.80	1	1.8	1.8	7.0
	2.00	5	8.8	8.8	15.8
	2.20	2	3.5	3.5	19.3
	2.40	3	5.3	5.3	24.6
	2.60	3	5.3	5.3	29.8
	2.80	7	12.3	12.3	42.1
	3.00	3	5.3	5.3	47.4
	3.20	13	22.8	22.8	70.2
	3.40	5	8.8	8.8	78.9
	3.60	4	7.0	7.0	86.0
	3.80	1	1.8	1.8	87.7
	4.00	7	12.3	12.3	100.0
	Total	57	100.0	100.0	

Efficacy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.20	1	1.8	1.8	1.8
	2.22	1	1.8	1.8	3.5
	2.30	1	1.8	1.8	5.3
	2.45	1	1.8	1.8	7.0
	2.50	2	3.5	3.5	10.5
	2.52	1	1.8	1.8	12.3
	2.57	2	3.5	3.5	15.8
	2.60	1	1.8	1.8	17.5
	2.65	1	1.8	1.8	19.3
	2.70	2	3.5	3.5	22.8
	2.75	1	1.8	1.8	24.6
	2.80	1	1.8	1.8	26.3
	2.82	3	5.3	5.3	31.6
	2.85	1	1.8	1.8	33.3
	2.87	1	1.8	1.8	35.1
	2.92	2	3.5	3.5	38.6
	2.97	1	1.8	1.8	40.4
	3.00	1	1.8	1.8	42.1
	3.02	2	3.5	3.5	45.6
	3.07	1	1.8	1.8	47.4
	3.15	1	1.8	1.8	49.1
	3.17	2	3.5	3.5	52.6
	3.20	2	3.5	3.5	56.1
	3.22	2	3.5	3.5	59.6
	3.25	2	3.5	3.5	63.2
	3.27	1	1.8	1.8	64.9
	3.30	1	1.8	1.8	66.7
	3.32	1	1.8	1.8	68.4
	3.35	2	3.5	3.5	71.9
	3.37	2	3.5	3.5	75.4
	3.40	1	1.8	1.8	77.2
	3.42	1	1.8	1.8	78.9
	3.45	1	1.8	1.8	80.7
	3.47	1	1.8	1.8	82.5
	3.52	1	1.8	1.8	84.2
	3.55	2	3.5	3.5	87.7
	3.60	1	1.8	1.8	89.5
	3.62	1	1.8	1.8	91.2
	3.67	1	1.8	1.8	93.0
	3.70	1	1.8	1.8	94.7
	3.72	2	3.5	3.5	98.2
	3.85	1	1.8	1.8	100.0
	Total	57	100.0	100.0	

Explore

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Scholistic	57	100.0%	0	.0%	57	100.0%
Efficacy	57	100.0%	0	.0%	57	100.0%

Descriptives

			Statistic	Std. Error
Scholistic	Mean		2.9719	.08990
	95% Confidence Interval for Mean	Lower Bound	2.7918	
		Upper Bound	3.1520	
	5% Trimmed Mean		2.9910	
	Median		3.2000	
	Variance		.461	
	Std. Deviation		.67869	
	Minimum		1.60	
	Maximum		4.00	
	Range		2.40	
	Interquartile Range		.90	
	Skewness		-.350	.316
	Kurtosis		-.621	.623
Efficacy	Mean		3.0795	.05526
	95% Confidence Interval for Mean	Lower Bound	2.9688	
		Upper Bound	3.1902	
	5% Trimmed Mean		3.0882	
	Median		3.1700	
	Variance		.174	
	Std. Deviation		.41718	
	Minimum		2.20	
	Maximum		3.85	
	Range		1.65	
	Interquartile Range		.61	
	Skewness		-.245	.316
	Kurtosis		-.773	.623

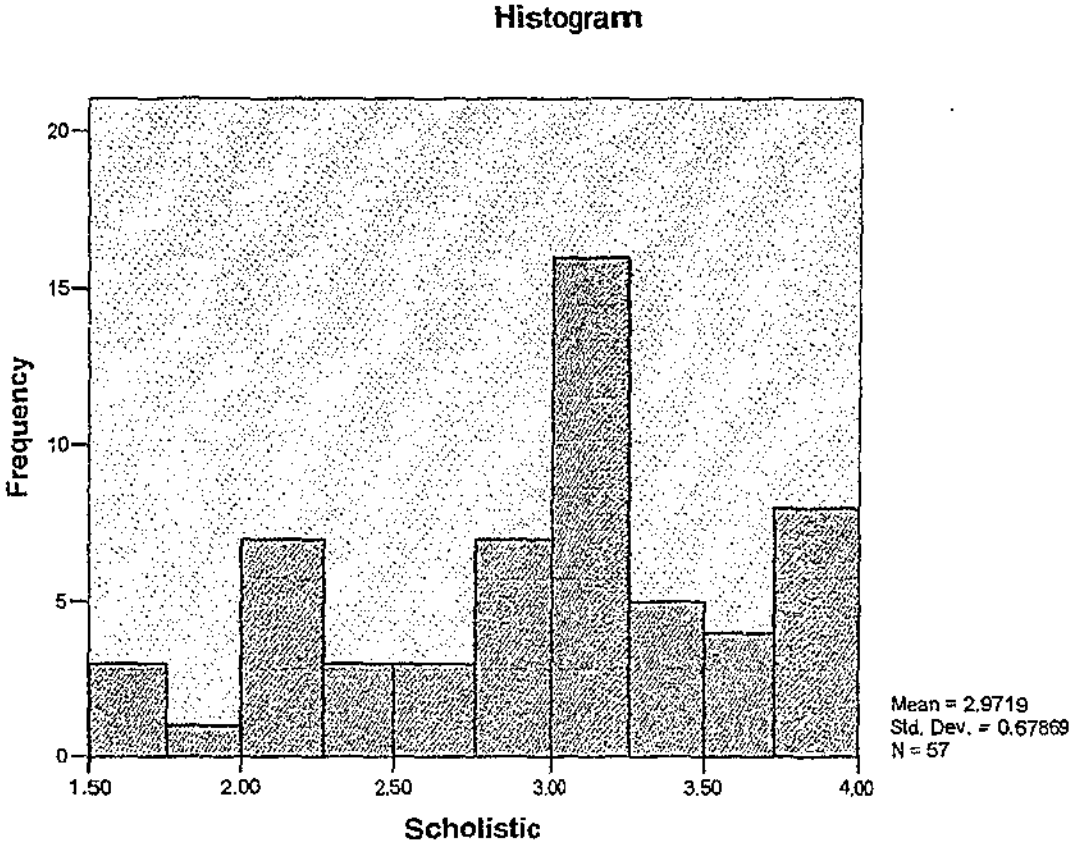
Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Scholistic	.158	57	.001	.946	57	.013
Efficacy	.095	57	.200*	.975	57	.278

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

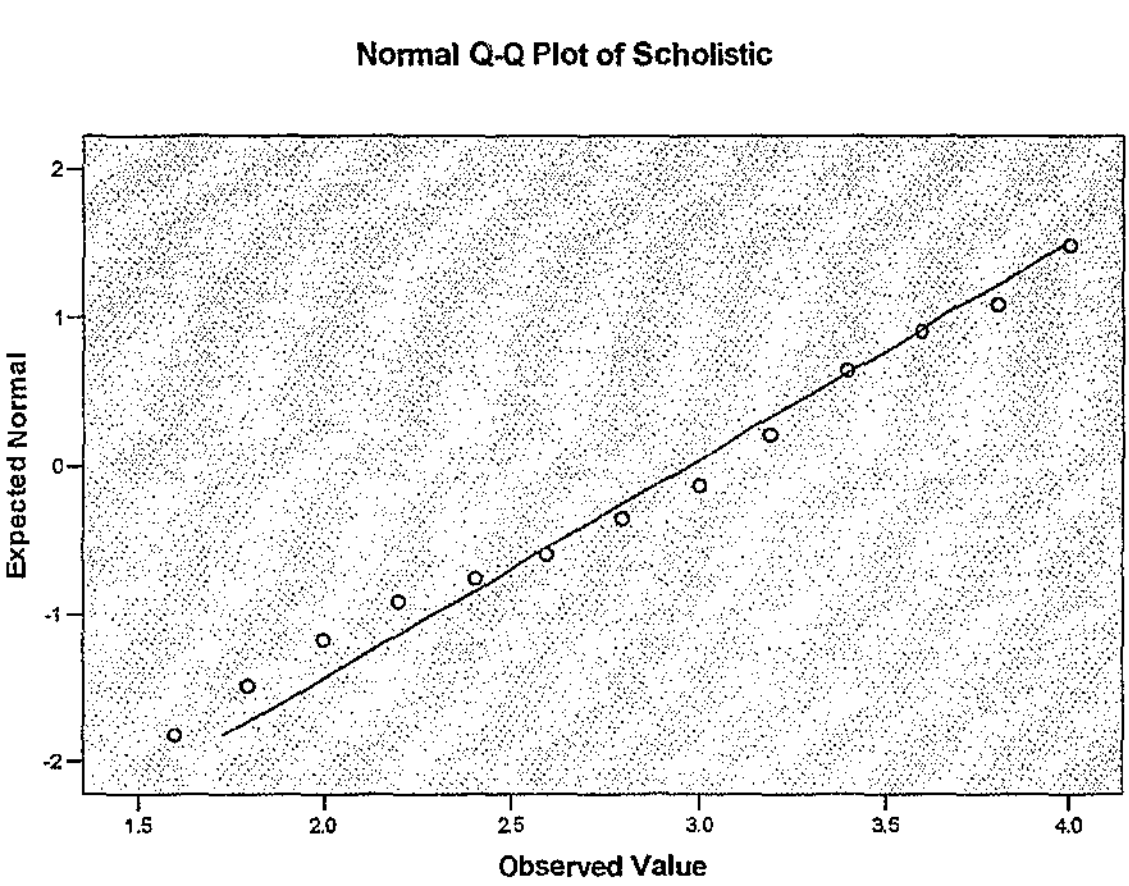
Scholistic

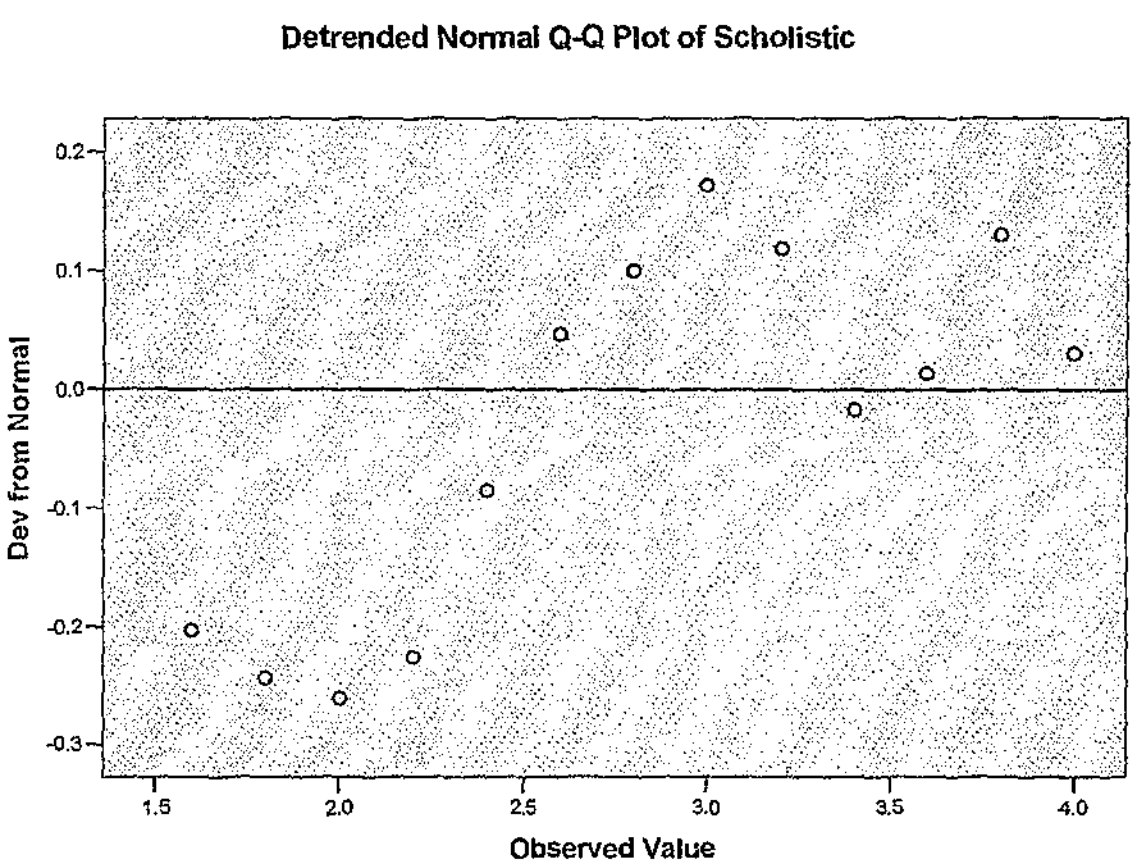


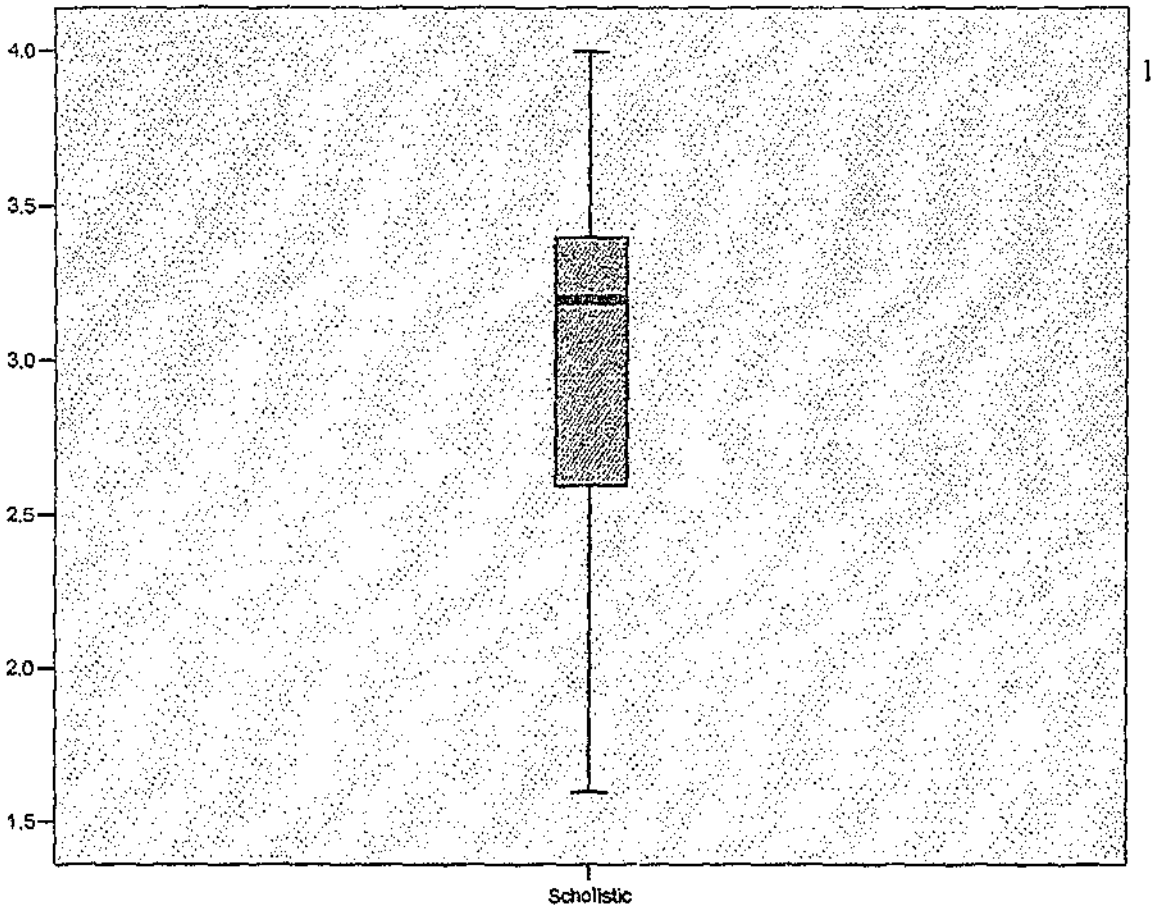
Scholistic Stem-and-Leaf Plot

Frequency	Stem &	Leaf
4.00	1 .	6668
10.00	2 .	0000022444
10.00	2 .	6668888888
21.00	3 .	000222222222222244444
5.00	3 .	66668
7.00	4 .	0000000

Stem width: 1.00
Each leaf: 1 case(s)

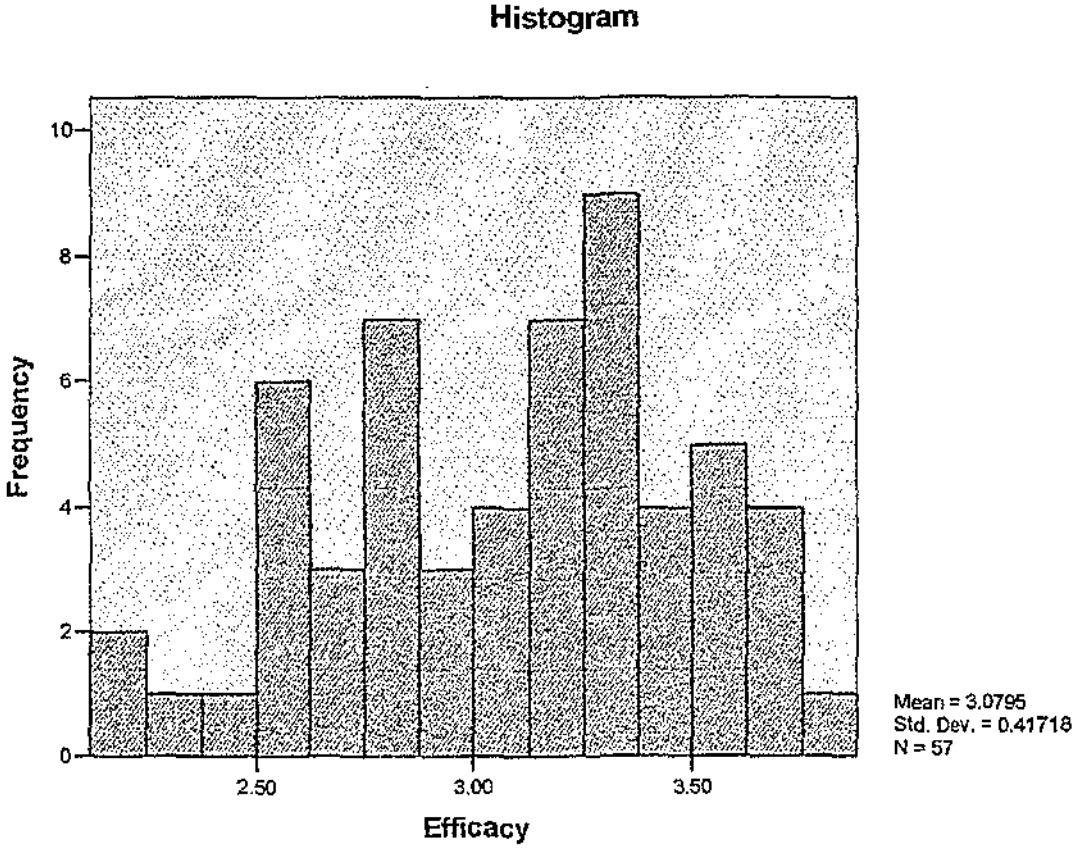

Normal Q-Q Plot of Scholistic
Expected Normal
2
1
0
-1
-2
1.5
2.0
2.5
3.0
3.5
4.0
Observed Value


Detrended Normal Q-Q Plot of Scholistic
Dev from Normal
0.2
0.1
0.0
-0.1
-0.2
-0.3
1.5
2.0
2.5
3.0
3.5
4.0
Observed Value



130

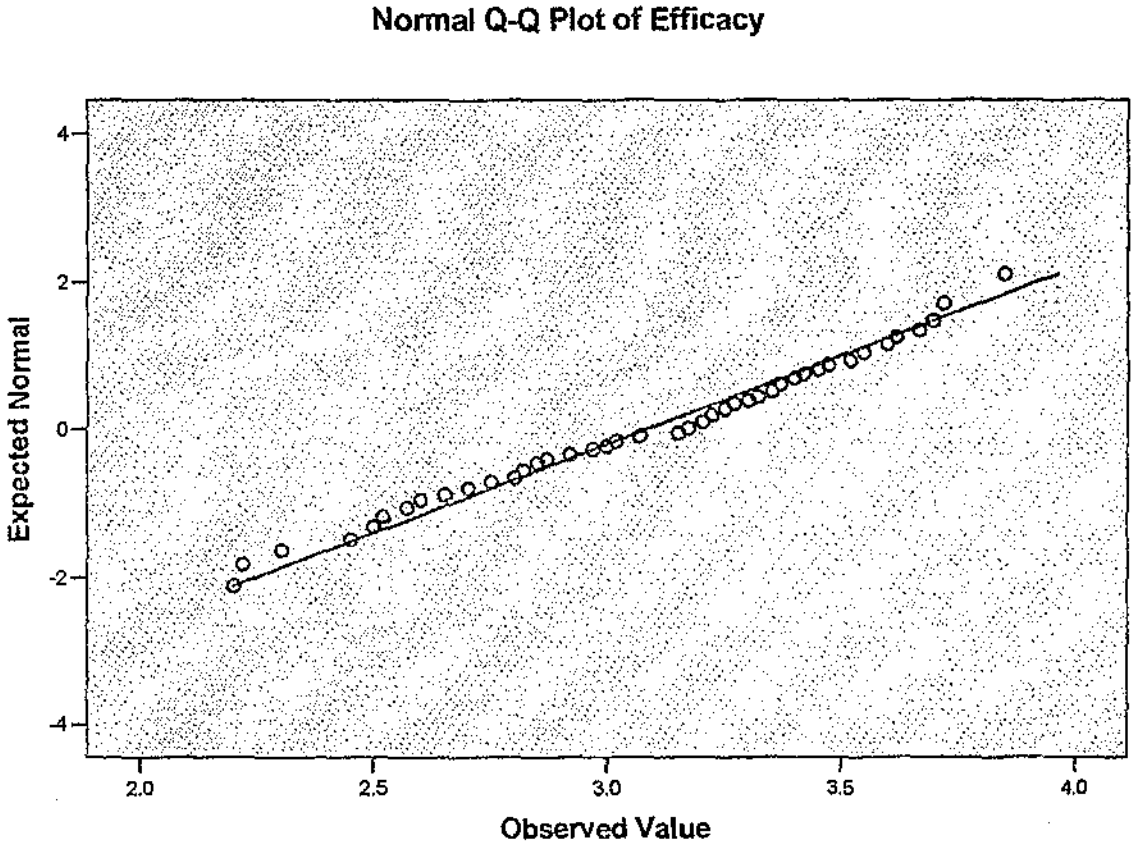
Efficacy

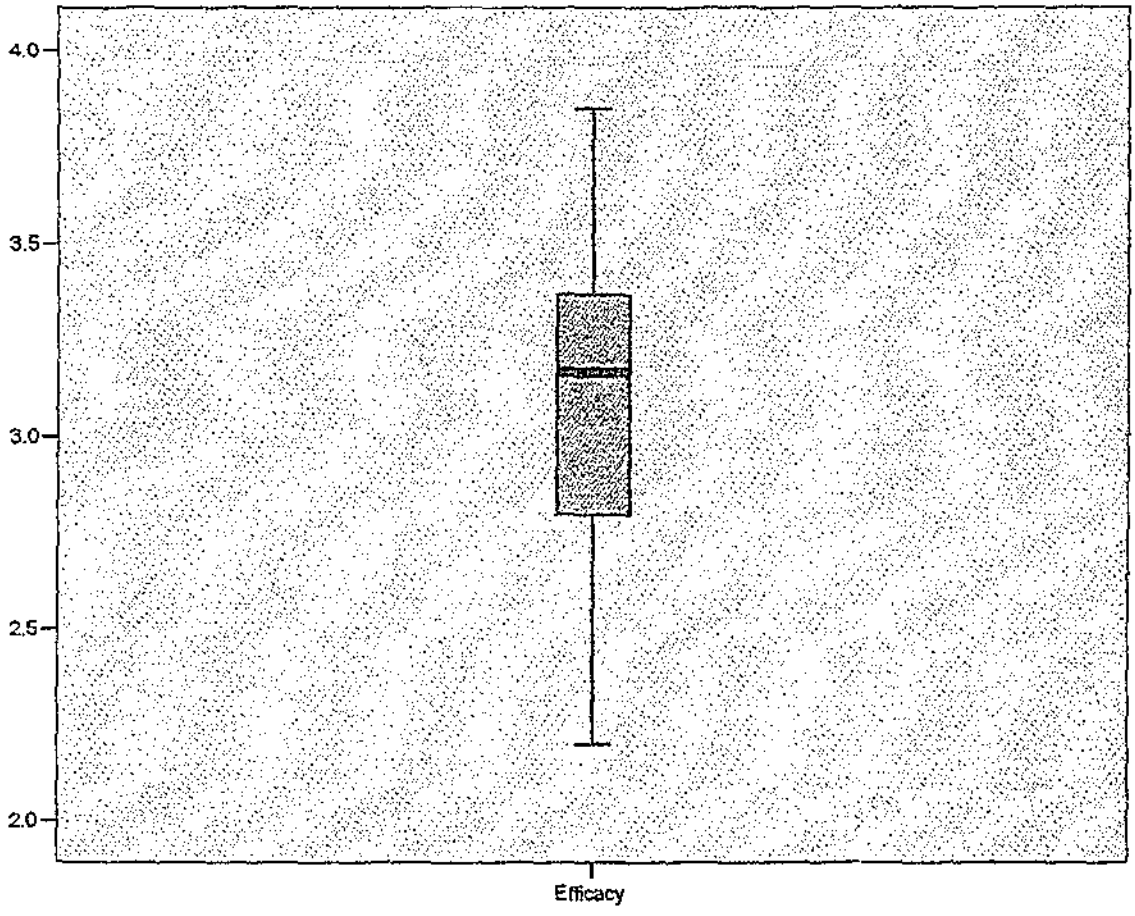


Efficacy Stem-and-Leaf Plot

Frequency	Stem &	Leaf
.00	2 .	
3.00	2 .	223
6.00	2 .	455555
5.00	2 .	66777
9.00	2 .	888888999
7.00	3 .	0000111
13.00	3 .	2222222333333
7.00	3 .	4444555
6.00	3 .	666777
1.00	3 .	8

Stem width: 1.00
Each leaf: 1 case(s)


Normal Q-Q Plot of Efficacy
Expected Normal
4
2
0
-2
-4
2.0
2.5
3.0
3.5
4.0
Observed Value



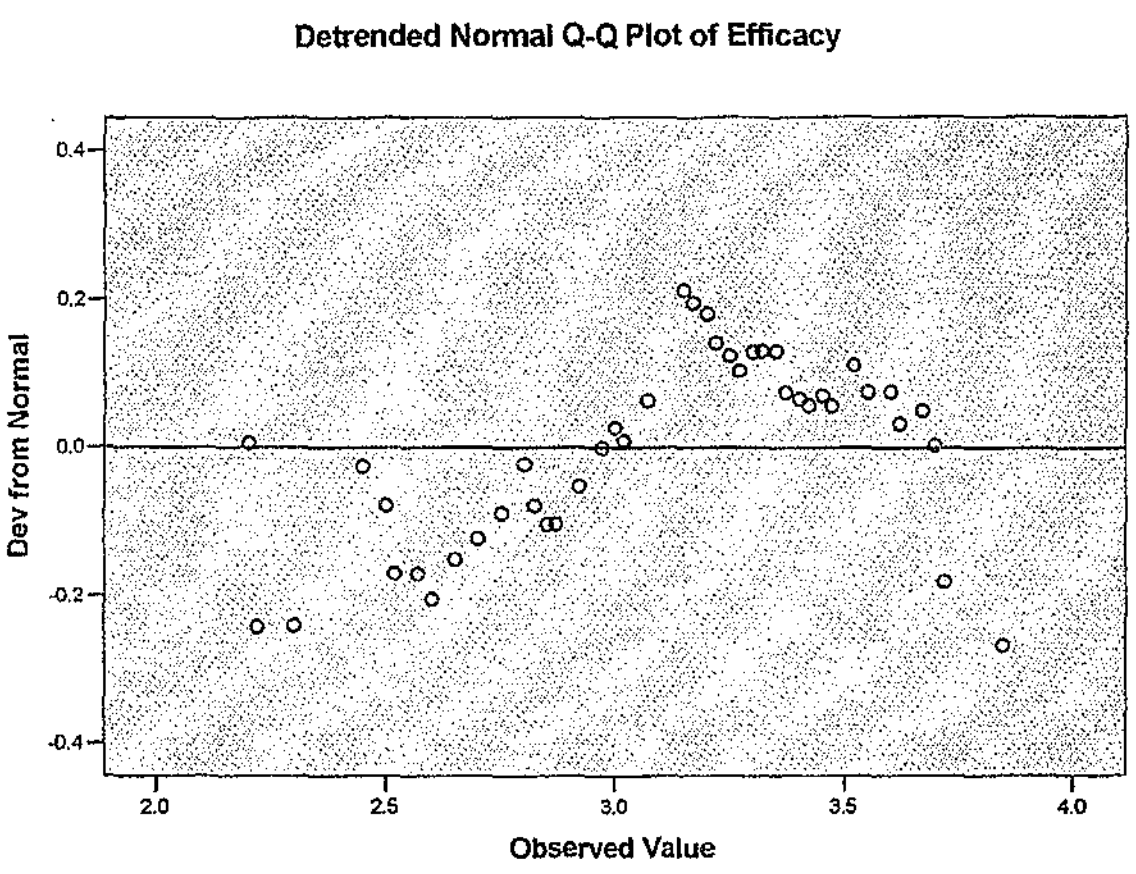
Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Belonging	3.9072	.56088	57
Scholistic	2.9719	.67869	57
Efficacy	3.0795	.41718	57
Esteem	2.7281	.16008	57

Correlations

		Belonging	Scholistic	Efficacy	Esteem
Pearson Correlation	Belonging	1.000	-.242	-.022	-.131
	Scholistic	-.242	1.000	.505	.152
	Efficacy	-.022	.505	1.000	.216
	Esteem	-.131	.152	.216	1.000
Sig. (1-tailed)	Belonging	.	.035	.434	.166
	Scholistic	.035	.	.000	.129
	Efficacy	.434	.000	.	.053
	Esteem	.166	.129	.053	.
N	Belonging	57	57	57	57
	Scholistic	57	57	57	57
	Efficacy	57	57	57	57
	Esteem	57	57	57	57


Detrended Normal Q-Q Plot of Efficacy
Dev from Normal
0.4
0.2
0.0
-0.2
-0.4
2.0
2.5
3.0
3.5
4.0
Observed Value

	Scholistic	Efficacy	Esteem	Belonging	MAH 1
1	3.20	3.42	2.50	3.88	3.35502
2	3.20	3.22	2.60	3.88	.96922
3	4.00	3.35	3.00	3.38	4.64799
4	2.40	2.97	2.40	3.94	4.75196
5	4.00	3.72	2.70	3.33	3.40925
6	2.60	2.70	3.00	3.88	4.63567
7	3.40	2.82	2.90	3.00	2.98500
8	3.20	3.55	2.60	4.44	2.46138
9	3.60	3.17	2.70	3.72	1.01666
10	2.80	2.92	2.50	3.83	2.03559
11	2.60	2.45	2.60	3.94	2.58691
12	2.20	2.50	2.50	3.83	3.45604
13	2.40	2.92	2.60	2.72	1.19891
14	4.00	3.62	2.80	2.83	2.68792
15	4.00	3.32	2.90	4.50	3.15449
16	3.20	3.37	2.80	4.83	.57983
17	2.80	2.57	2.50	4.44	3.13745
18	3.60	3.35	2.80	3.11	.97987
19	2.00	2.85	2.50	4.44	3.70624
20	2.80	3.85	3.00	2.94	7.26703
21	3.20	3.02	2.60	3.05	.90469
22	3.20	3.30	2.70	3.16	.37646
23	2.80	3.00	3.00	3.94	3.28611
24	2.00	2.82	2.70	4.27	2.06507
25	3.40	3.25	2.80	4.00	.52769
26	3.00	2.80	2.70	3.88	.64506
27	3.20	3.25	2.70	4.77	.26696
28	3.20	3.52	2.80	4.22	1.22410
29	3.40	3.60	2.80	4.61	1.59082
30	4.00	3.67	2.50	5.00	6.18230
31	3.00	3.37	3.00	4.22	3.19370
32	3.20	2.87	2.60	4.66	1.27223
33	2.60	2.70	2.70	3.66	.83871
34	1.80	2.60	2.50	4.22	4.38156
35	4.00	2.65	2.50	3.61	8.44663
36	3.20	3.20	2.70	3.38	.19707
37	3.60	3.15	2.60	3.22	1.79935
38	2.20	2.22	2.90	3.88	6.70178
39	3.20	3.07	2.90	4.11	1.34174
40	3.60	3.40	2.80	4.11	1.04504
41	4.00	3.70	2.70	4.00	3.30289
42	3.40	2.20	2.60	3.66	8.50639
43	2.80	3.17	3.00	4.00	3.16643
44	3.40	3.55	2.70	3.55	1.46490

Appendix M

	Scholistic	Efficacy	Esteem	Belonging	MAH_1
45	3.80	3.72	2.80	3.22	2.63196
46	3.20	2.75	2.80	4.05	1.69915
47	1.60	3.20	2.70	4.66	6.40090
48	3.20	3.45	3.00	4.11	3.21424
49	1.60	2.50	2.80	4.50	4.98500
50	3.00	2.82	2.80	4.88	.88993
51	2.80	2.30	2.90	2.77	6.30425
52	2.80	3.27	2.90	3.88	1.58138
53	2.00	2.57	2.60	4.22	2.63563
54	2.00	2.52	2.70	3.94	2.58971
55	2.40	3.22	2.70	4.00	1.52789
56	1.60	3.47	2.70	4.11	9.28204
57	2.00	3.02	2.70	4.33	2.50758

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Esteem, Scholistic, Efficacy[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Belonging

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.292[a]	.085	.033	.55150

Model Summary[b]

	Change Statistics				
Model	R Square Change	F Change	df1	df2	Sig. F Change
1	.085	1.641	3	53	.191

a. Predictors: (Constant), Esteem, Scholistic, Efficacy

b. Dependent Variable: Belonging

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.497	3	.499	1.641	.191[a]
	Residual	16.120	53	.304		
	Total	17.617	56			

a. Predictors: (Constant), Esteem, Scholistic, Efficacy

b. Dependent Variable: Belonging

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.137	1.289		3.986	.000
	Scholistic	-.250	.126	-.302	-1.982	.053
	Efficacy	.209	.207	.156	1.010	.317
	Esteem	-.415	.472	-.118	-.879	.383

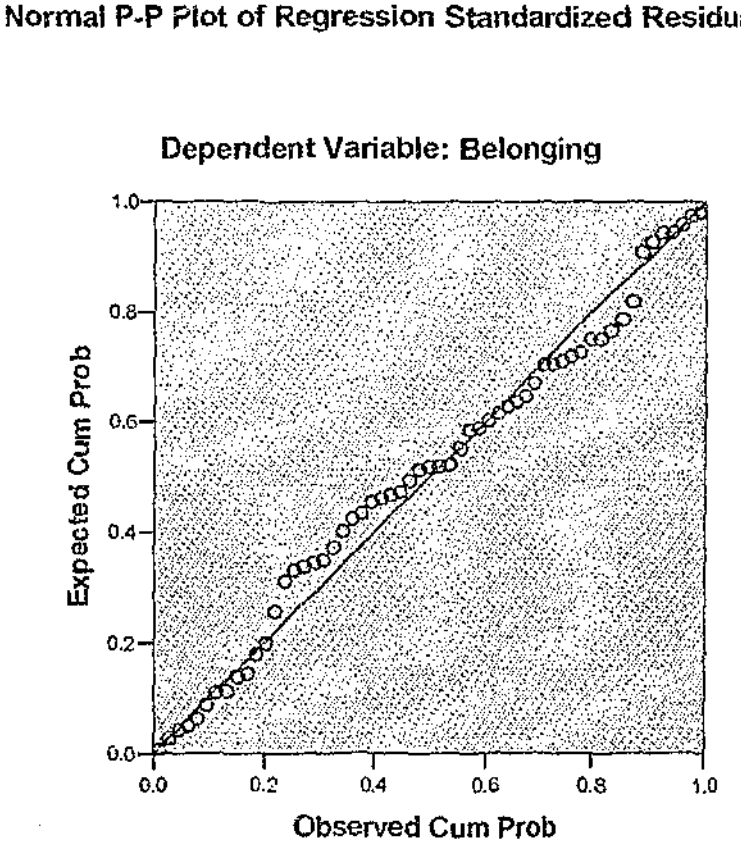
a. Dependent Variable: Belonging

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.5943	4.3432	3.9072	.16350	57
Std. Predicted Value	-1.914	2.667	.000	1.000	57
Standard Error of Predicted Value	.080	.236	.141	.039	57
Adjusted Predicted Value	3.5600	4.3955	3.9090	.16861	57
Residual	-1.34977	1.13117	.00000	.53652	57
Std. Residual	-2.447	2.051	.000	.973	57
Stud. Residual	-2.497	2.196	-.002	1.007	57
Deleted Residual	-1.40448	1.29713	-.00182	.57593	57
Stud. Deleted Residual	-2.633	2.282	-.003	1.026	57
Mahal. Distance	.197	9.282	2.947	2.218	57
Cook's Distance	.000	.187	.019	.038	57
Centered Leverage Value	.004	.166	.053	.040	57

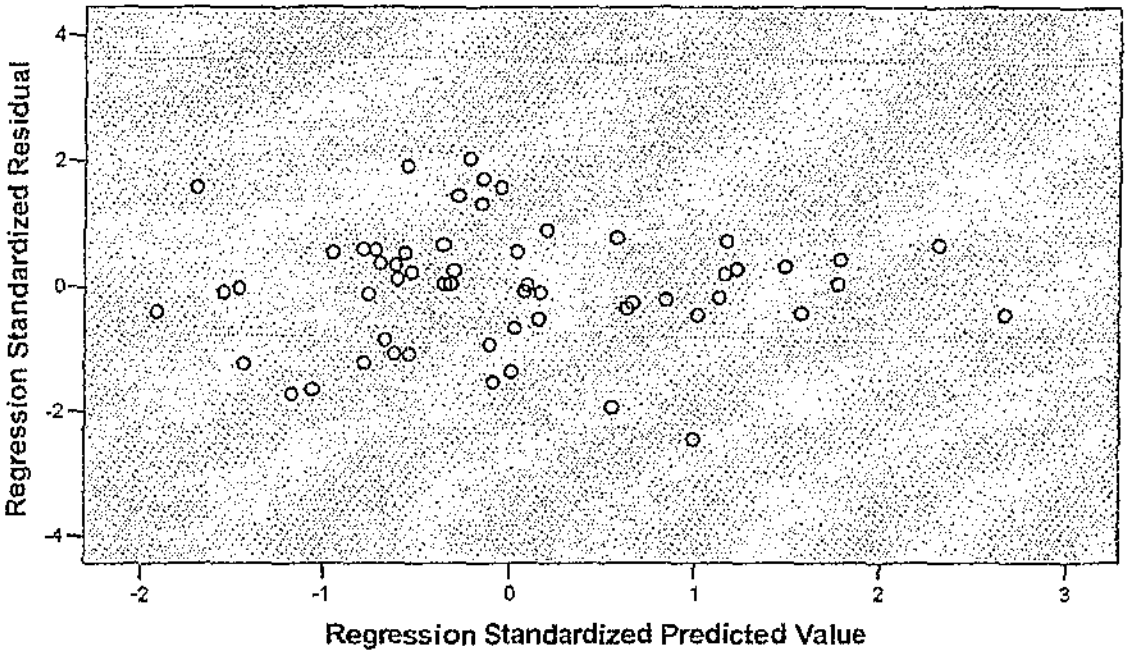
a. Dependent Variable: Belonging

Charts



Scatterplot

Dependent Variable: Belonging



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